

Manual

Municipal-Sized Hydraulic Powered Stainless Steel Hopper Spreaders

Table of Contents

General Information 1
 Safety Precautions 1-2
 Installation Instruction 2-8
 Spreader Operation 2-8
 Spreader Maintenance 2-8
 Repair Parts 6-8
 Optional Equipment 5

General Information

MODEL	OVERALL LENGTH	WIDTH	HEIGHT	GEAR BOX RATIO	CAPACITY CUBIC YARDS
1450657SSH	131"	82"	57"	50:1	6.0
1425657SSH	131"	82"	57"	25:1	6.0

1. Recommended Vehicle Requirements

Buyers Municipal-Sized Hopper Spreaders are intended for spreading abrasives and/or chemicals, primarily for ice and snow control. They are intended for installation on truck chassis or dump bodies with minimum GVWR 26,000 lbs. Spreaders are intended to be mounted on trucks with **Cab To Axle/Tandem Dimension** minimum of 72 inches.

▲ IMPORTANT

The Cab to Axle/Tandem dimensions are only guidelines. Consult federal, state and local weight laws and chassis manufacturer's ratings to ensure neither government weight restrictions, nor GVWR and GAWRs are exceeded.



1450757SSH
 Shown with Optional
 LB8663SST Lightbar
 &
 LS4 Liquid Spray System

2. Average Material Weights

MATERIAL WEIGHT (POUNDS PER CUBIC YARD)

- #1 Rock Salt - 950
- #2 Rock Salt - 1,215
- Coarse Sand - Dry 2,565
- Coarse Sand - Wet 3,240

3. Recommended Fastener Torques

Maintain all fastener torques as shown in the following table. Failure to do so may cause injury to persons.

	SAE GRADE 2	SAE GRADE 5
	ft-lbs	ft-lbs
5/16-18	11	18
3/8-18	19	31
3/8-24	24	46
7/16-14	30	50
1/2-13	45	75
9/16-12	66	110
5/8-11	93	150

4. Gearbox Oil

The gearbox of the spreader is filled with ISO VG 460 synthetic gear lubricant at the factory. This lubricant has operating temperature -40° C to 150° C.

WARNING

Verify that the above oil meets your operating temperature requirements. If not, empty and refill with the proper viscosity oil. Before starting spreader, check that the gearbox is filled to the proper level with lubricant.

General Safety Precautions

WARNING

Observe the following Safety Precautions before, during and after operating this spreader. By following these precautions and common sense, possible injury to persons and potential damage to this machine may be avoided.

- 1.** Read this entire Owner's Manual before operating this spreader.
- 2.** Read all safety decals on the spreader before operating the spreader.
- 3.** Check to make sure all safety guards are securely mounted into place before operating your spreader.
- 4.** Verify that all personnel are clear of the spreader spray area before starting or operating this spreader.
- 5.** Keep all loose clothing, hair, jewelry and limbs clear of the spreader before starting or operating this spreader.
- 6.** Do not over-load your vehicle beyond payload limits.
- 7.** Do not perform any service operation on the spreader while it is running.
- 8.** Do not climb on or into the spreader during operation.
- 9.** Do not ride on the spreader while the vehicle is in motion.
- 10.** Make sure the spreader is securely fastened to the vehicle.
- 11.** Do not operate a spreader that is in need of maintenance or repair.

General Installation Instructions

Dump Body Mounting

- 1.** Remove the tailgate from the vehicle if applicable.

- 2.** Lift the spreader using the (4) lifting loops in the corners of the hopper.

WARNING

The lifting device must be adequately rated to lift a payload equal to or greater than the spreader weight. See page 1 for spreader weights. Empty the spreader before lifting.

- 3.** Center the spreader in the vehicle. Spreader sills must overhang 20" beyond the back end of the vehicle.
- 4.** If the dump body is not flat, it is suggested that the spreader be placed on two 1" x 6" hardwood boards. This will evenly distribute the weight of the loaded spreader on the entire cross channels.
- 5.** The spreader may be secured to the vehicle by using Tie-Down Kit Buyers part #3010548 (sold separately).
- 6.** Periodically check that the spreader mounting hardware is securely tightened.

Chassis Mounting

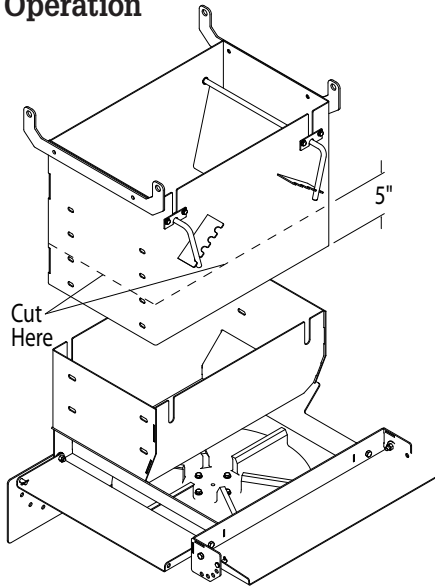
- 1.** Hardwood wear strips usually 1" x 3" (not furnished) must be fitted to the truck chassis.
 - 2.** The spreader should be positioned on the wooden wear strips so hopper sills must overhang 20" beyond the back end of the vehicle.
 - 3.** In addition a distance of approximately 4"-6" must be left between the truck cab and the front of the hopper. This will help facilitate any future servicing of the conveyor chain.
 - 4.** Qualified installer must fabricate suitable angles to attach hopper cross members to track's frame.
- DO NOT** weld mounting angles to the truck frame. Doing so can cause fatigue cracking of the truck frame.

Chute Installation

- 1.** Bolt chute to Chute Guide using screws, washers and nuts. Place washers between Chute Guide tabs and Chute brackets.
- 2.** Swing chute towards vehicle. Connect chute to the hopper by engaging two latches into corresponding holes in chute brackets.
- 3.** Chute heights can be adjusted by sliding lower chute assembly up or down inside of upper

chute assembly. Adjustment slots are spaced by 3". Secure lower chute assembly using all 4 carriage bolts provided. Make sure all four bolts are used for installation. To increase ground clearance cut upper chute as shown and use lower slots in bottom chute.

Spreader Operation



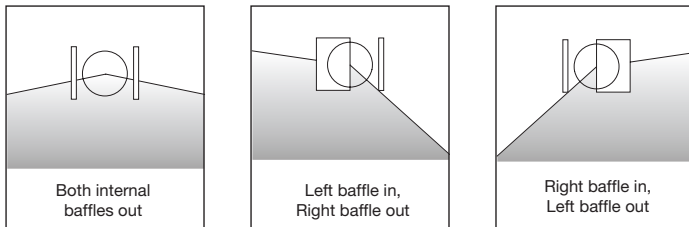
The spread pattern and the amount of material dispensed will depend on the following factors:

- Conveyor speed.
- Spinner RPM.
- Feed gate door position.
- Baffle settings.

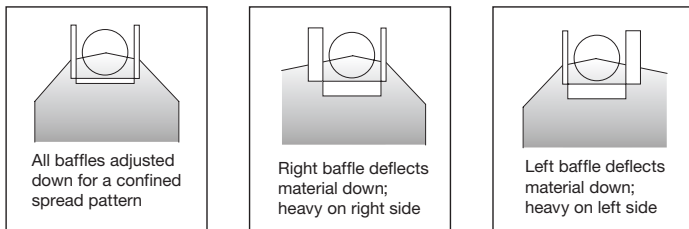
Below are illustrations that show the baffles effect on the spread pattern as viewed from the top of the spinner disk.

Installation Instructions – Hydraulic System

Internal Baffle Adjustment



External Baffle Adjustment

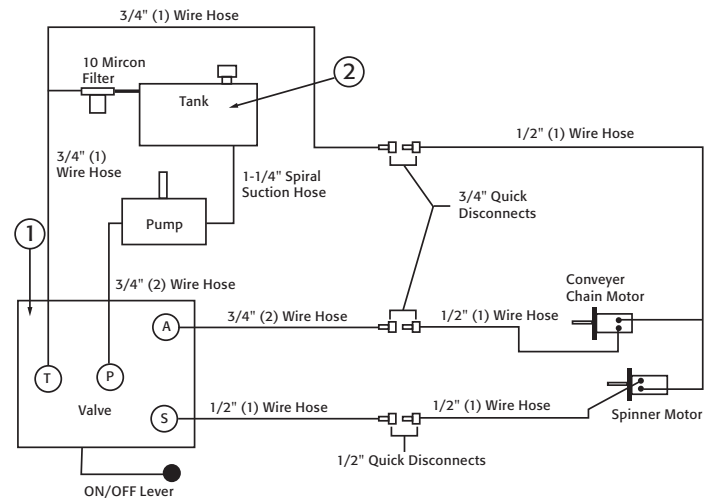


1. During assembly take precautions to keep all hydraulic components as clean as possible.
2. Allow enough hose length to prevent kinking and stretching of the hoses and to permit raising the dump body. Support long hoses with wire ties or clamps.
3. Protect hoses from wear caused by sliding and/or vibration.
4. For proper rotation of conveyor chain and spinner motors, hoses may be reversed.
5. Note: Use of a pipe joint sealant compatible with hydraulic oil is recommended for all screw fittings.
6. Use swivel type hose ends to connect hoses to flow valve. Damage to valve body may occur if the fittings in flow valve are over tightened.
7. A 10 micron return line filter is recommended to protect the pump, valve, and motors from wear causing contamination.

8. Spreader Operation

Initial Priming and Inspecting of the System

CAUTION



Valve Key
T= Tank/Reservoir
P= Pump/Pressure In
A= Auger (Conveyor Chain)
S= Spinner

(1) Single braid wire hose
(2) Double braid wire hose

Main Components

ITEM	PART NO.	QTY.	DESCRIPTION
1	HV715	1	DUAL FLOW REGULATOR VALVE
2	SMR15S	1	15-GALLON RESERVOIR
N/S	HVC1	1	DUAL FLOW REGULATOR CONSOLE

- Be sure everyone is standing clear of spreader.
- Be alert for anything that may require shutting down the system.
- Before working in or around spreader equipment, be sure all hydraulic controls are moved to OFF position.

1. Use high grade non-foaming hydraulic oil to fill reservoir about 3/4 full.
2. Position valve on/off lever to OFF.
3. Move auger (conveyor chain) and spinner knobs on the valve to the open position.
4. Engage PTO and circulate hydraulic oil for several minutes to warm up.
5. Move valve on/off lever to ON.
6. Inspect hydraulic system for leaks.
7. Check conveyor chain and spinner to see if they are working properly and rotating the correct direction. To reverse rotation, switch the hydraulic lines at the motor.
8. Refill reservoir to 3/4 full.
9. Hydraulic system should now be ready for use.

Spreader Start-Up

1. Check feed gate opening and baffle positions for desired material flow and spread pattern. See Spreader Operation section.
2. Check to make sure that no loose parts or other material are in hopper, on in chute or spinner disk.
3. Shut off spinner and conveyor chain knobs and position the on/off lever to ON. Engage the PTO and allow the hydraulic system to warm up.
4. After the system is warm turn the spinner and auger (conveyor chain) knobs to the desired settings.
5. Changing the conveyor chain and spinner speeds as well as adjusting the baffle positions will produce various spread patterns.

Miscellaneous

- Valve setting changes may be made with truck in motion.
- By moving on/off lever to the off position, spinner and conveyor chain may be stopped at the same time without changing their valve settings.

CAUTION

Always follow the following precautions so as not to cause damage to the spreader.

- If the conveyor chain does not move because of dense material or a material jam, remove all material from the hopper and free the chain.
- If the material in the hopper freezes, move the spreader into a warm area to thaw.
- To prevent the feed chain from freezing, do not store material in the spreader.
- The gearbox is designed to only accept torque from the input shaft. Therefore, **DO NOT ATTEMPT TO FREE THE CONVEYOR BY USING A PIPE OR SIMILAR TOOL TO MOVE OR DISLodge THE CHAIN.** This action will void all warranties.

Spreader Maintenance

- Grease the following components regularly:
- Idler shaft bearings (2)
- Drive shaft bearing (1)
- Feed Gate Jack
- Gearbox input shaft (if equipped with fitting)
- Check gearbox oil level periodically and maintain the oil level by adding appropriate lubricant.

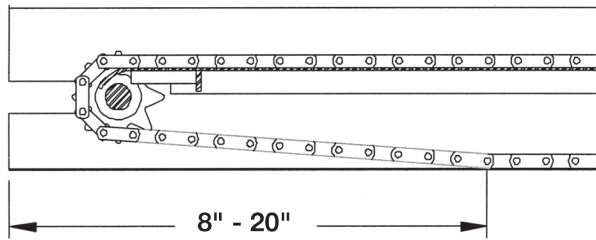
IMPORTANT!

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

- Check the Feed Chain tension periodically. Proper chain tension is illustrated below. Be sure the chain is tensioned equally on both sides. This adjustment is made on each side of the spreader at the idler bearing.

Lubricate the conveyor chain at least once a week. Use a mixture of 75% fuel oil and 25% SAE 10 oil in a pressurized hand spray gun.

- Tighten all screw fasteners to recommended torques after the first week of operation and annually thereafter. If loose fasteners are found at any time, tighten to the recommended torques. Replace any lost or damaged fasteners or other parts immediately upon finding such damage or loss. Check body mounting bolts every week.



CAUTION

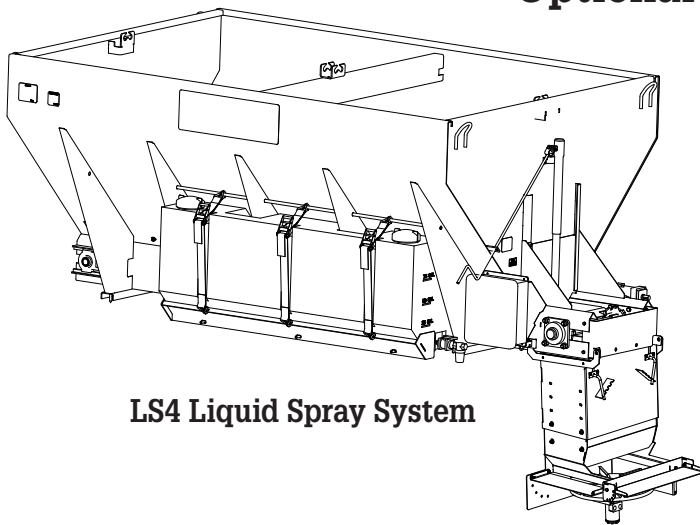
Do not over-tension the conveyor chain. This can cause damage to the chain, bearings, and gearbox.

- Empty the spreader of all ice control material when not in use to prevent a frozen feed chain & damage due to corrosion.
- Wash out the spreader when it is not in use. At the end of the season wash out the spreader to remove all ice control materials. Thoroughly dry all metal surfaces. Re-paint and oil all previously painted surfaces and chains to protect from rust. Properly store the spreader for the next season.

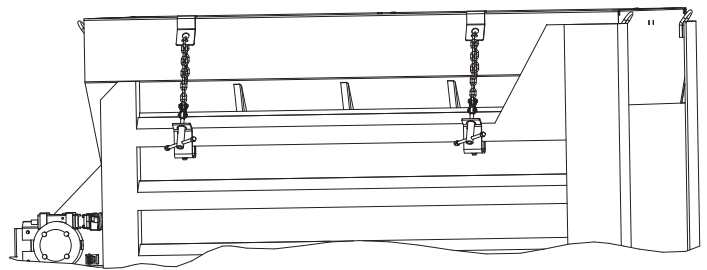
Spreader Maintenance - Hydraulic System

- 1.** Warm up hydraulic system before using.
- 2.** Keep the reservoir 3/4 full with high grade non-foaming hydraulic oil.
- 3.** Use precautions to keep contaminants from getting in reservoir when filling.
- 4.** Quick connects are a prime source of contamination.
 - Clean quick connects before connecting or disconnecting them.
 - Protect quick connects from contaminants at all times.
- 5.** Lubricate all bearings and jack with suitable type grease on a regular basis. More frequent lubrication is recommended during periods of heavy use.
- 6.** Maintain the proper lubrication level in all gear-boxes with appropriate gear lubricant.
- 7.** When not in use, keep the spreader empty to prevent freezing of material in the hopper in extremely cold weather.
- 8.** To extend the life of your spreader:
 - Hose down and clean after each use.
 - Repaint and/or oil, where necessary, after each season.

Optional Equipment

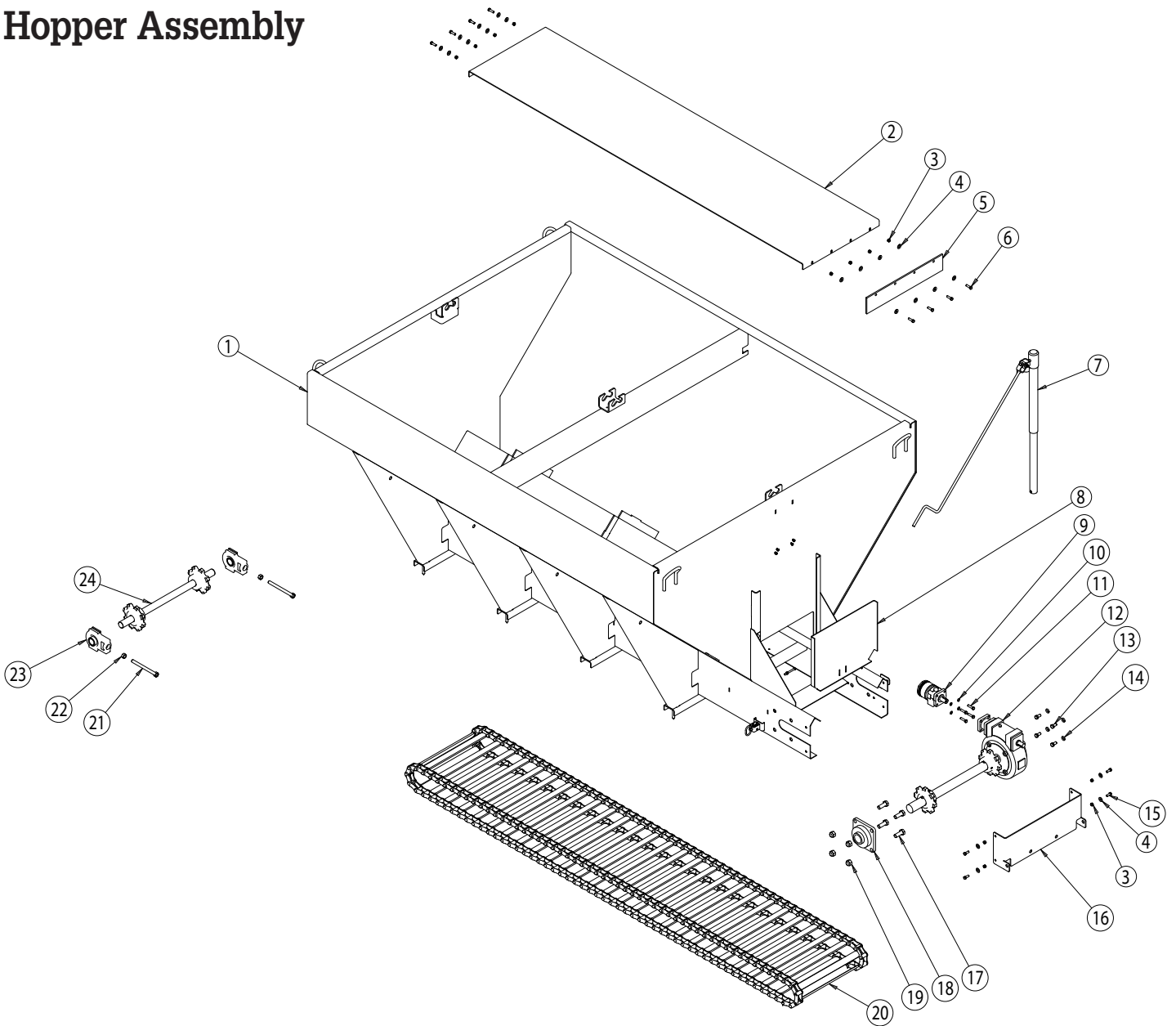


LS4 Liquid Spray System



3010548 Tie-Down Kit

Hopper Assembly

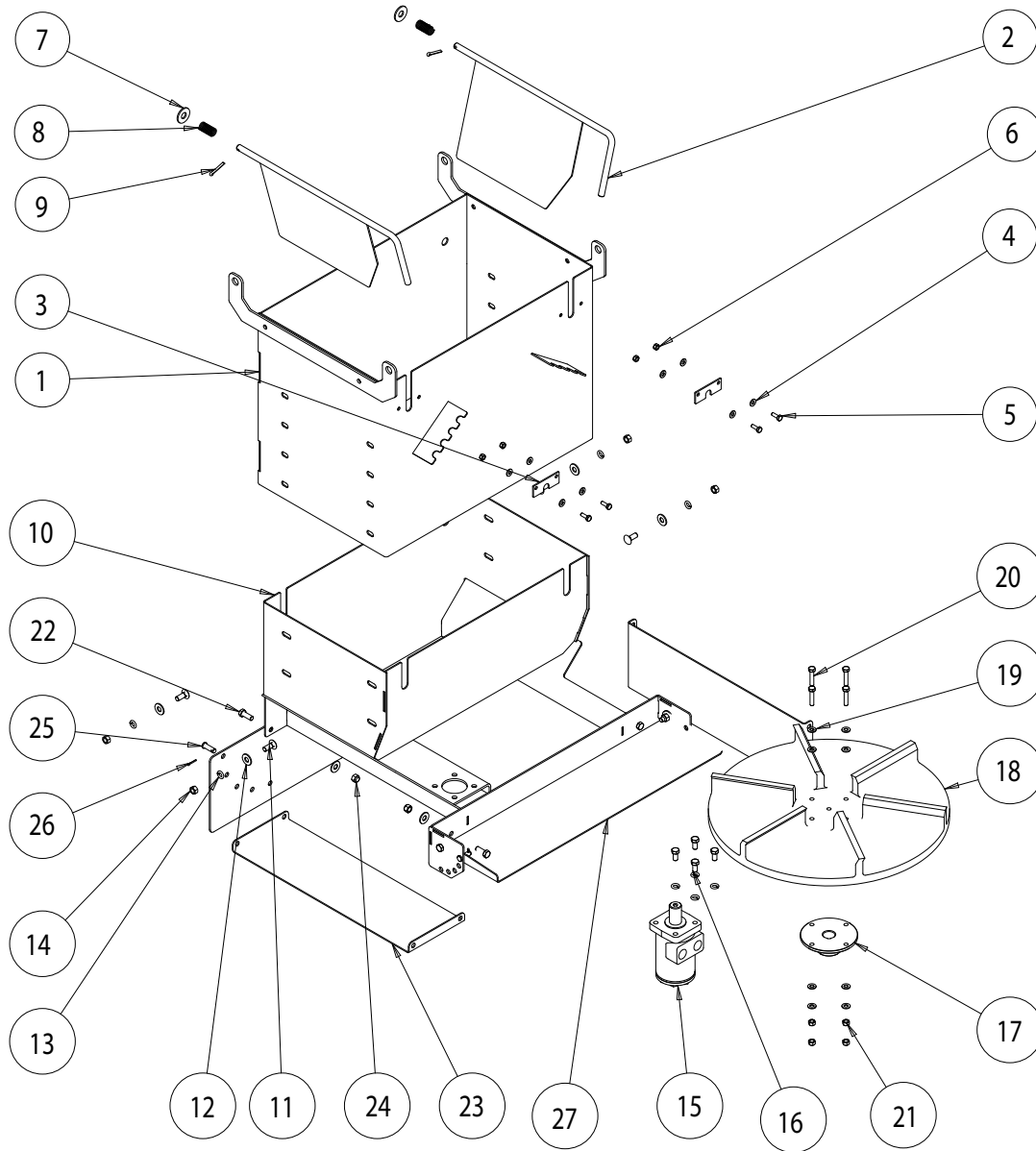


Bill of Materials

ITEM	PART NO.	QTY.	DESCRIPTION
1	3020565	1	HOPPER WELDMENT
2	3020561	1	FLOOR PANEL
3	-	12	NUT,NYLOCK 3/8-16 X 7/16 SST
4	-	12	WASHER,FLAT 3/8 USS SST
5	3010131	1	WIPER,RUBBER
6	-	8	SCREW,HEX HEAD CAP,3/8-16 X 1-1/4 SST
7	3010443	1	JACK ASSEMBLY,FEED GATE
8	3010312	1	FEED GATE,WELDMENT
9	CM034P	1	MOTOR,HYD,4 BOLT 17.9 CI/R
10	-	4	WASHER,LOCK RHS 3/8 SST
11	-	4	SCREW,HEX HEAD CAP,3/8-16 X 1-1/2 SST
12	3010847	1	GEARBOX,50:1,SPROCKET ASSEMBLY
12	3010991	1	GEARBOX,25:1,SPROCKET ASSEMBLY

ITEM	PART NO.	QTY.	DESCRIPTION
13	-	4	SCREW,HEX HEAD CAP,1/2-13 X 1 SST
14	-	4	WASHER,SPLIT LOCK,1/2 SST
15	-	4	SCREW,HEX HEAD CAP,3/8-16 X 1.00 SST
16	3010180	1	GUIDE CHUTE
17	-	4	SCREW,HEX HEAD CAP,3/4-10 X 2 SST
18	4F32SCR	1	FLANGE UNIT,4-HOLE,2IN,SET SCREW LOCKING
19	-	4	NUT,NYLOCK 3/4-10 SST
20	3020562	1	CHAIN,9FT D667X CONVEYOR
21	3010494	2	BOLT,WELDED,TAKE-UP
22	-	2	NUT,HEX 5/8-11 SST
23	3010603	2	BEARING, HD TAKE-UP 1.5 DIA
24	3010358	1	IDLER SHAFT,ASSEMBLY

Chute Assembly

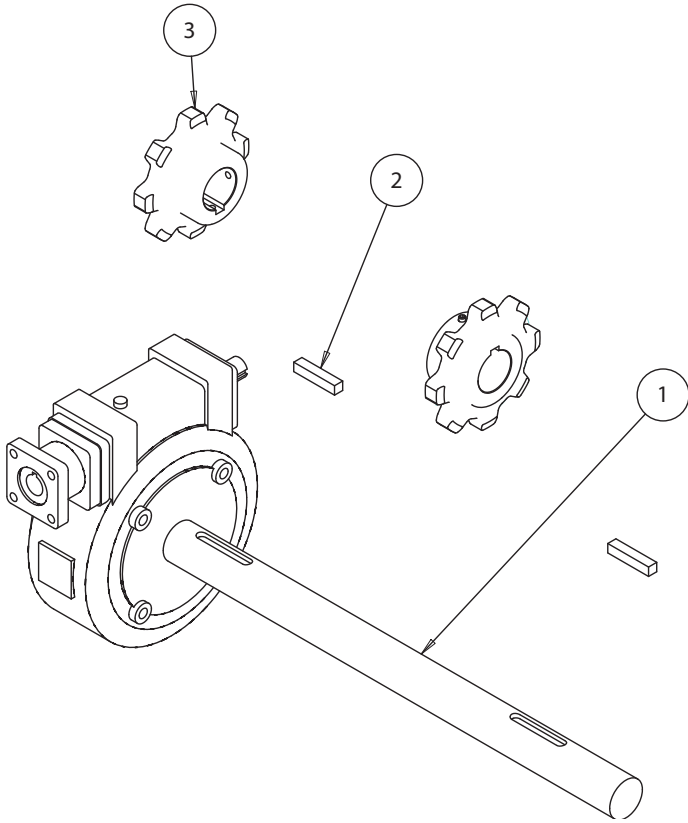


Bill of Materials

ITEM	PART NO.	QTY.	DESCRIPTION
1	3010172	1	WELDMENT UPPER CHUTE
2	3010202	2	WELDMENT DEFLECTOR INNER
3	3010278	2	RETAINER DEFLECTORS INNER
4	-	8	WASHER, FLAT 1/4" SAE ZINC/CLEAR
5	-	4	SCREW, CAP 1/4-20 X 3/4 SST
6	-	4	NUT, NYLON INSERT 1/4-20 SST
7	-	2	WASHER, FLAT 1/2 USS SST
8	3008853	2	SPRING, SPINNER CHUTE BAFFLE
9	-	2	PIN, COTTER 3/16" X 1.25" ZN
10	3012495	1	WELDMENT, LOWER CHUTE BOTTOM MOTOR
11	-	4	BOLT, 3/8-16 X 1 CARRIAGE SST
12	-	10	WASHER, FLAT 3/8 USS SST
13	-	8	WASHER, LOCK RHS-3/8 SST

ITEM	PART NO.	QTY.	DESCRIPTION
14	-	4	NUT, 3/8-16 HEX SST
15	CM004P	1	MOTOR, HYD 4 BOLT
16	-	4	SCREW, HHC 3/8-16 X 3/4 SST
17	924F0017A	1	ASSEMBLY, SPINNER HUB
18	9240020	1	SPINNER, 20" POLY CCW
19	-	8	WASHER, 5/16 SAE SST
20	-	4	SCREW, HHC 5/16-18 X 1.5 GR. 5 SS
21	-	4	NUT, NYLOCK 5/16-18 SS
22	-	6	SCREW, HHC 3/8-16 X 1 304 SST
23	3012506	2	BAFFLE SIDE, LOWER CHUTE
24	-	6	NUT, NYLOCK 3/8 X 7/16 SST
25	-	3	PIN, CLEVIS 3/8 X 1.125 SST
26	-	3	PIN, COTTER 3/32 X 3/4 STAINLESS
27	3012507	1	BAFFLE REAR, LOWER CHUTE

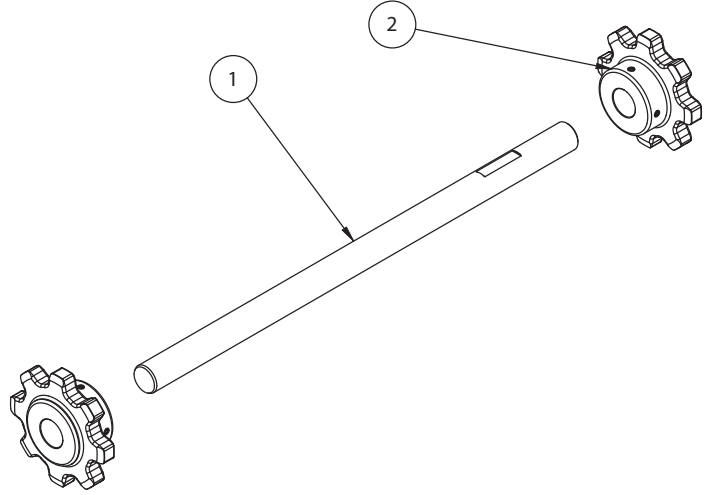
Gear Box, Sprockets Assembly



Bill of Materials

ITEM	PART NO.	QTY.	DESCRIPTION
1	3010863	1	GEAR BOX 25:1 LEFT HAND
1	3010057	1	GEAR BOX 50:1 LEFT HAND
2	3010989	2	KEY SQUARE, 1/2" X 2 1/2"
3	3010845	2	SPROCKET DRIVE ASSEMBLY

Idler Shaft Assembly



Bill of Materials

ITEM	PART NO.	QTY.	DESCRIPTION
1	3010034	1	SHAFT, IDLER 28" LONG
2	3010846	2	SPROCKET IDLER ASSEMBLY