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Installation Manual

Stainless Steel Hopper Spreaders, Auger Feed

Contents

SPREADER WARRANTY INFORMATION

This warranty replaces all previous warranties and no employee of this company is authorized to extend additional warranties, or agreements, or implications not explicitly covered herein.

Buyers Products Company warrants all parts of the product to be free from defects in material and workmanship for a period of one (1) year. Parts must be properly installed and used under normal conditions. Normal wear is excluded.

Any part which has been altered, including modifications, misuse, accident, or lack of maintenance will not be considered under this warranty.

The sole responsibility of Buyers Products Company under this warranty is limited to repairing or replacing any part(s) which are returned, prepaid, 30 days after such defect is discovered, and returned part(s) are found to be defective by Buyers Products Company.

Authorization from Buyers Products Company must be obtained before returning any part. The following information must accompany defective parts returned to Buyers Products Company: RMA#, spreader model, serial number, date installed, and distributor from whom purchased.

Buyers Products Company shall not be liable for damage arising out of failure of any unit to operate properly, or failure, or delay in work, or for any consequential damages. No charges for transportation or labor performed on any part will be allowed under this warranty.

Spreader Models and Specifications

MODEL #	POWER	HOPPER LENGTH	OVERALL LENGTH	OVERALL WIDTH	EMPTY WEIGHT	CAPACITY (YDS.)
14708F463211	Hydraulic	96	115	70	1328	3.00
14708F467211	Electric	96	115	70	1328	3.00
14709F463211	Hydraulic	108	127	70	1443	4.00
14709F467211	Electric	108	127	70	1443	4.00
14709F523211	Hydraulic	108	127	70	1551	5.00
14709F527211	Electric	108	127	70	1551	5.00
14710F463211	Hydraulic	120	139	70	1526	4.50
14710F467211	Electric	120	139	70	1526	4.50
14710F523211	Hydraulic	120	139	70	1641	5.00
14710F527211	Electric	120	139	70	1641	5.00

shown with optional spreader stand

General Information

Recommended Vehicle Requirements:

This spreader is to be used on trucks with dump bodies or flatbed trucks with a Gross Vehicle Weight Rated chassis of 15,000 lbs. or greater.

⚠ CAUTION

Do not overload vehicle beyond the vehicle's Gross Vehicle Weight Rating (GVWR) or Gross Axle Weight Ratings (GAWR). Check the vehicle's load rating certification sticker for maximum vehicle capacity.

Average Material Weights:

MATERIAL WEIGHT (pounds per cubic yard)

- Rock Salt – 2,160 lbs per cubic yard
- Sand weight, course dry – 2,565 lbs per cubic yard
- Sand weight, course wet – 3,240 lbs per cubic yard

Note: To calculate the total Gross Spreader Weight (including ice control material), add the empty spreader weight plus the ice control material and spreader accessories.

Safety Precautions

⚠

This symbol points out important safety instructions which, if not followed, could endanger the personal safety and/or property of yourself and others. Read and follow all instructions in this manual before attempting to install or operate this spreader. Failure to comply with these instructions may result in personal injury. When you see this symbol. HEED ITS WARNING!

⚠ DANGER

This spreader was built to be operated according to the safe operation practices in this manual. As with any type of power equipment, carelessness or error on the part of the operator can result in serious injury. This spreader is capable of amputating hands and feet and throwing objects. Failure to observe the following safety instructions may result in serious injury or death.

⚠ WARNING

Improper installation and operation could cause personal injury, and/or property damage. 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 spreader may be avoided.

- Read and fully understand the entire Installation and Operator's Manual before operating this spreader.
- Read and fully understand all safety decals on the spreader before operating the spreader.
- Check to make sure all safety guards and shields are securely mounted and in place before operating this spreader. Never remove or modify guards or shields.
- Verify that all personnel are clear of the spreader spray area before starting or operating this spreader.
- Do not over-load your vehicle beyond payload limits. If there are any questions, contact the end stage vehicle manufacturer.
- Shut off vehicle before servicing, adjusting, or cleaning. Do not unclog material jambs without shutting off the vehicle and disconnecting the hydraulics.
- Do not climb, sit, walk or ride on the auger at any time. Do not ride on the spreader while the vehicle is in motion.
- Keep hands, feet, hair and loose clothing away from moving parts.
- Make sure the spreader is securely fastened to the vehicle in accordance with this Installation and Operator's Manual.
- Do not operate a spreader that needs maintenance or repairs.
- Do not operate the spreader while ill, tired, or under the influence of alcohol or drugs.

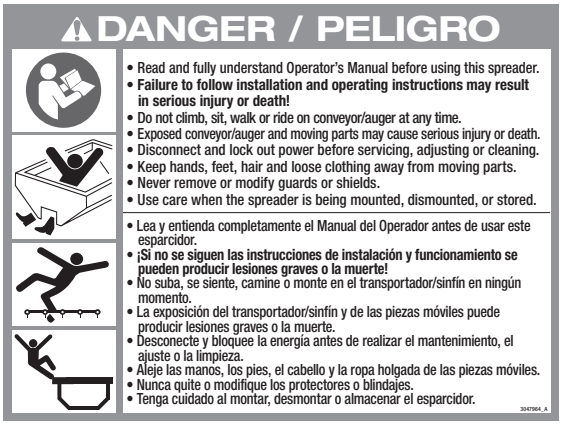
Safety Symbols

⚠ WARNING

It is recommended to install Backup Alarm on trucks to be up fitted with spreaders.

The following pages show safety symbols that may appear on this product. Read and fully understand all safety decals on the spreader before operating the spreader.

Located On The Rear Of The Spreader



Located On Each Side Of The Spreader

Located on the Rear Chute Assembly / Spinner

Installation Instructions

Mounting the Spreader onto the Vehicle:

This model of spreader is intended to be installed on a standard 34" wide truck chassis or inside an appropriate length dump or platform body. Use the following as a guide for installation.

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. The spreader sills must overhang 14" beyond the rear of the nearest vertical obstruction (bumper, trailer hitch, etc). Attach chute to spreader, check for interference between the vehicle and the Spinner/Chute Assembly.

4. If the body platform is not flat, place the spreader on 1" x 6" hardwood boards. This will evenly distribute the weight of the loaded spreader on the entire cross channels. This will also help with removal of excess material that accumulates under the spreader.

⚠ CAUTION

Inspect tie downs and hardware after each time spreader is loaded. Tighten tie downs and hardware if necessary.

5. Bolt the spreader to the vehicle frame through the lengths of lumber using the holes located in each of the four (4) side gussets. Use 1/2" SAE Grade 5 hardware as required by vehicle application.

6. In addition to the 1/2" grade 5 bolts, secure the spreader to the vehicle by attaching the four (4) tie-down eyes located at each corner of the spreader to the vehicle's factory installed anchor points using suitable tie-down devices.

- The spreader must be securely fastened to the frame or body of the vehicle.
- Verify with the vehicle's manufacturer that the factory installed anchor points are designed for tie-down of such load.
- Periodically check that the spreader mounting hardware is securely tightened, retighten if necessary.

Control Box and Vehicle Wiring Harness Installation

⚠ IMPORTANT

Make certain you are connecting the proper wire colors when installing the harness. This is wire ground electrical system, no connections to truck's frame or body are permitted.

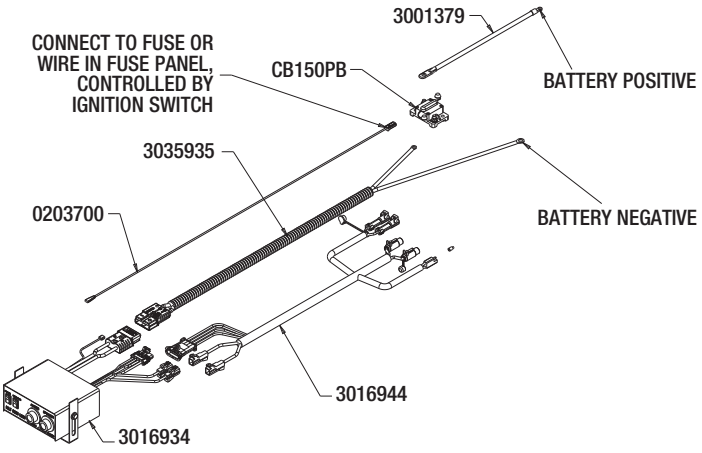
⚠ WARNING

Do not drill holes through fuel tanks, fuel lines, electrical wiring, etc. during the harness installation process.

To ensure good performance of your spreader, check the condition of the truck's electrical system. Using a digital voltmeter, check the alternator and battery voltage. With the engine running and head lights and heater fan ON, an acceptable voltage reading should fall between 13.0 and 15.3 volts. If the voltage reading falls out of this range, check and adjust your electric system.

⚠ CAUTION

Always disconnect vehicle harness from the battery before attempting to install electrical components on your vehicle.



1. Mount the controller in a convenient location in the truck cab. It is recommended not to mount the controller directly in front of heat vents. Allow ample air space around controller.

⚠ CAUTION

Do not mount the controller in the way of air bag deployment!

2. Route both wire harnesses into truck cab through firewall (it may be necessary to drill holes). Insulate hole to avoid water leaks following the install.

3. Ensure no wires are nicked or damaged during installation.

4. Connect the 4-pin connector on the wire harness to the controller 4-pin connector.

5. Connect the 2-pin connector on the power cable to the controller mating connector.

6. Connect wire harness single connectors to controller connectors.

7. Connect fuse connector to the fuse terminal or ignition switch (5 AMP max).

8. Lay out a path for the power cable to the battery, use cable ties to secure the power cable. DO NOT CONNECT TO BATTERY AT THIS TIME!
9. Lay out path for spreader wire harness to the rear of the vehicle. Stay clear of the exhaust system, excess heat can damage the wire harnesses. Use cable ties to secure harness to underbody.
10. Connect the wire harness to the auger drive motor. Make sure wire colors on wire harness match colors on the auger drive motor. See figure 1.
11. Thoroughly clean battery terminals. Make certain the battery terminals have no corrosion

⚠ CAUTION

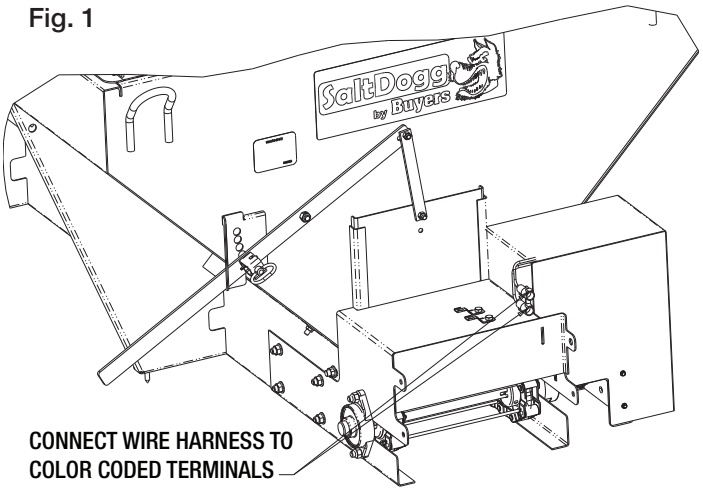
Do not connect wire harness to damaged or corroded terminals. It may result in overheating, lost power and potential controller damage.

⚠ IMPORTANT

Make certain you are connecting the proper wire colors when installing the harness. This is wire ground electrical system, no connections to truck's frame or body are permitted.

12. Connect the power cable directly to the battery terminal.
13. Ensure all functions of the controller are working properly.
14. Observe auger moving in proper direction. If direction is backwards, reverse wires between Auger Drive Motor and Wire Harness.
15. Optional spot light (5 AMP max) can be installed on spreader. Remove cap from single white wire. Connect light to this wire and trucks frame.

Fig. 1

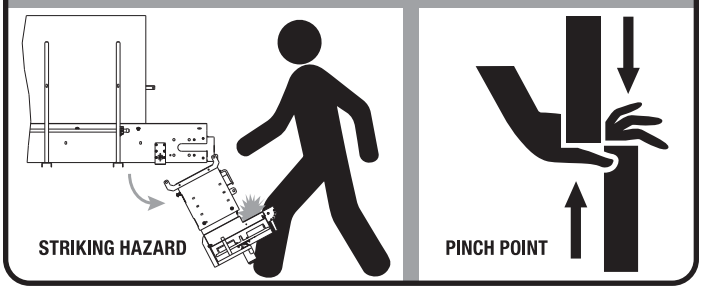


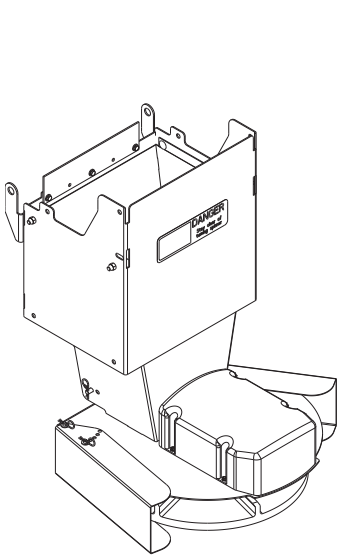
Spinner/Chute Assembly Operation

1. Attach chute to hopper assembly by bolting chute to lower tabs of motor mount. Secure the chute by engaging spring latches into the respective holes. The chute height can be adjusted by attaching the lower chute weldment to the upper using the upper or lower set of holes.
2. The spread pattern and the amount of material dispensed will depend on the following factors:
- **a.** Vehicle speed
- **b.** Conveyor/Auger speed
- **c.** Spinner RPM
- **d.** Feed gate door position
- **e.** Baffle setting

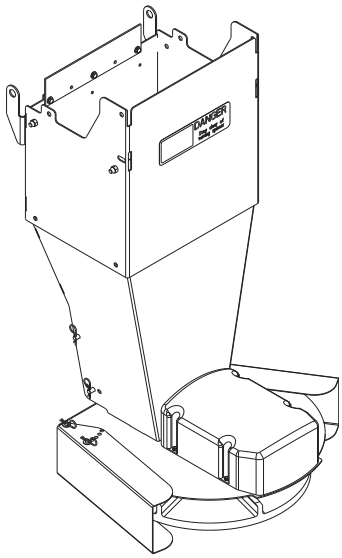
⚠ WARNING

• Make certain area behind spreader is clear before releasing the chute.
• Pinch Point. Keep hands clear when un-latching and latching the rear spinner
• Failure to maintain clearance while releasing the chute may result in serious injury or death!





Standard Chute Position



Extended Chute Position

Installation Instructions - Hydraulic Models

1. During assembly take precautions to keep all hydraulic components as clean as possible. See the figure below for hydraulic schematic.

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.

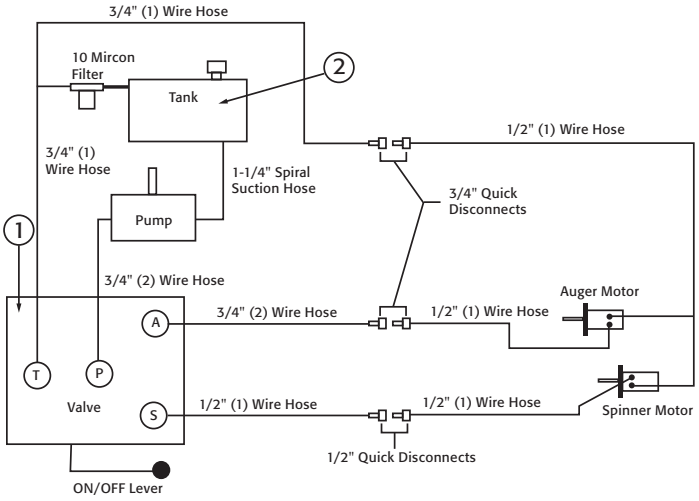
3. Protect hoses from wear caused by abrasion and/or vibration.

4. For proper rotation of the auger and spinner motors, hoses may be reversed. The spinner rotates clockwise when looking down from the top.

Note: Use of a pipe joint sealant compatible with hydraulic oil is recommended for all screw fittings.

5. Use swivel type hose adapter fitting ends to connect hoses to flow valve. Damage to valve body may occur if the fittings in flow valve are over tightened.

6. A 10 micron return line filter is recommended to protect the pump, valve, and motors from wear causing contamination.



Valve Key
T= Tank/Reservoir
P= Pump/Pressure In
A= Auger
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	–	1	Reservoir 25 Gal Min
N/S	HVC1	1	Dual Flow Regulator Console

Spreader Operation - Hydraulic Models

⚠ WARNING

- Before working in or around spreader equipment, be sure all hydraulic controls are moved to OFF position, the PTO must be disengaged (OFF) and the truck engine must be shut off.
- When operating, be sure everyone is standing clear of spreader.
- Be alert for anything that may require shutting down the system.
- Equipment must be started up slowly and watched from a safe distance.

⚠ CAUTION

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

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

Initial Priming and Inspecting of the System

1. Make certain the spreader hopper is empty

2. Fill oil reservoir approximately 3/4 full using high grade non-foaming hydraulic oil

3. Be certain the manual spreader valve ON/OFF lever is in the OFF position

4. Start the truck engine

5. Engage PTO and circulate hydraulic oil for several minutes to warm up hydraulic system

6. Position manual spreader valve ON/OFF lever to ON position

7. Rotate the auger control knob and spinner control knob on the manual spreader valve to the desired operating position

8. Check the auger and spinner to see that they are working properly and rotating in the correct direction

   a. To reverse rotation, switch the hydraulic lines at the motor. Only service your spreader when the truck engine is OFF

9. Shut the truck engine OFF

10. Inspect hydraulic system for leaks

11. Refill oil reservoir to 3/4 full

12. Hydraulic system is now be ready for use

Spreader Start-up

1. Set feed gate opening and baffle positions for desired material flow and spread pattern.

2. Check to make certain that no loose parts or other material are in hopper, chute or on the spinner disk

3. Warm up the hydraulic system

- **a.** Start the truck engine
- **b.** Engage PTO and circulate hydraulic oil for several minutes
- **c.** Position manual spreader valve ON/OFF lever to ON position
- **d.** Rotate the auger control knob and spinner control knob on the manual spreader valve to the desired operating position
- **e.** Move the ON/OFF lever to the OFF position after warming up the system. Position the spinner and auger control knobs to the desired settings

4. Put spreading material in the V-Box.

5. Changing the auger and spinner speeds as well as adjusting the feed gate and baffle positions will produce various spread patterns.

Operating the Spreader

1. Adjust the internal and external spinner baffles to positions that you have previously determined to give you desired spread pattern.

2. Before each use, warm up the hydraulic system following the procedure described in the Initial Spreader Setup section

3. Valve setting changes may be made with truck in motion

4. Allow Manual Spreader Valve to cool down before moving ON/OFF lever to the OFF position.

5. Moving the Manual Spreader Valve to the OFF position will stop the spinner and auger at the same time without changing their knob/valve settings

⚠ CAUTION

Position the valve on/off control lever in the off position when the spreader is not in use or is removed. In the event the valve on/off control lever is left in the on position, a heat problem may occur as the pump continues to pump oil to the hydraulic valve. This could cause a hose to burst spraying hot oil.

Spreader Maintenance

In-Season Maintenance

1. Wash spreader after every use. Make sure no material is left under auger/ chain and/or inside trough.

2. Inspect and retighten fasteners after every 7-10 hours of operation. Replace any loose or damaged fasteners.

3. Lubricate your spreader every 7-10 hours of operation and/or following every snow event using a lithium NLGI #2 rated general purpose marine grade grease.

- **a.** Idler Shaft Bearings (2)
- **b.** Drive Shaft Bearing (1)
- **c.** Feed Gate Jack
- **d.** Gearbox Input Shaft (if equipped with a fitting)
- **e.** Check the gearbox oil level and maintain the proper 3/4 full level by adding the appropriate lubricant. Use care to keep contaminants from getting in reservoir when checking and filling.

4. Maintain the oil reservoir approximately 3/4 full using high grade non-foaming hydraulic oil

5. If applicable, use dielectric grease on all electrical connectors before an electrical connection is made or after connector is disconnected

6. It is recommended to cover spreader with the tarp during storage periods.

End of Season / Off-Season Storage Maintenance

1. Wash spreader. Make certain no material or residue is left in or outside the hopper. Thoroughly dry all metal surfaces. Re-paint and oil all previously painted surfaces and auger to protect from rust.

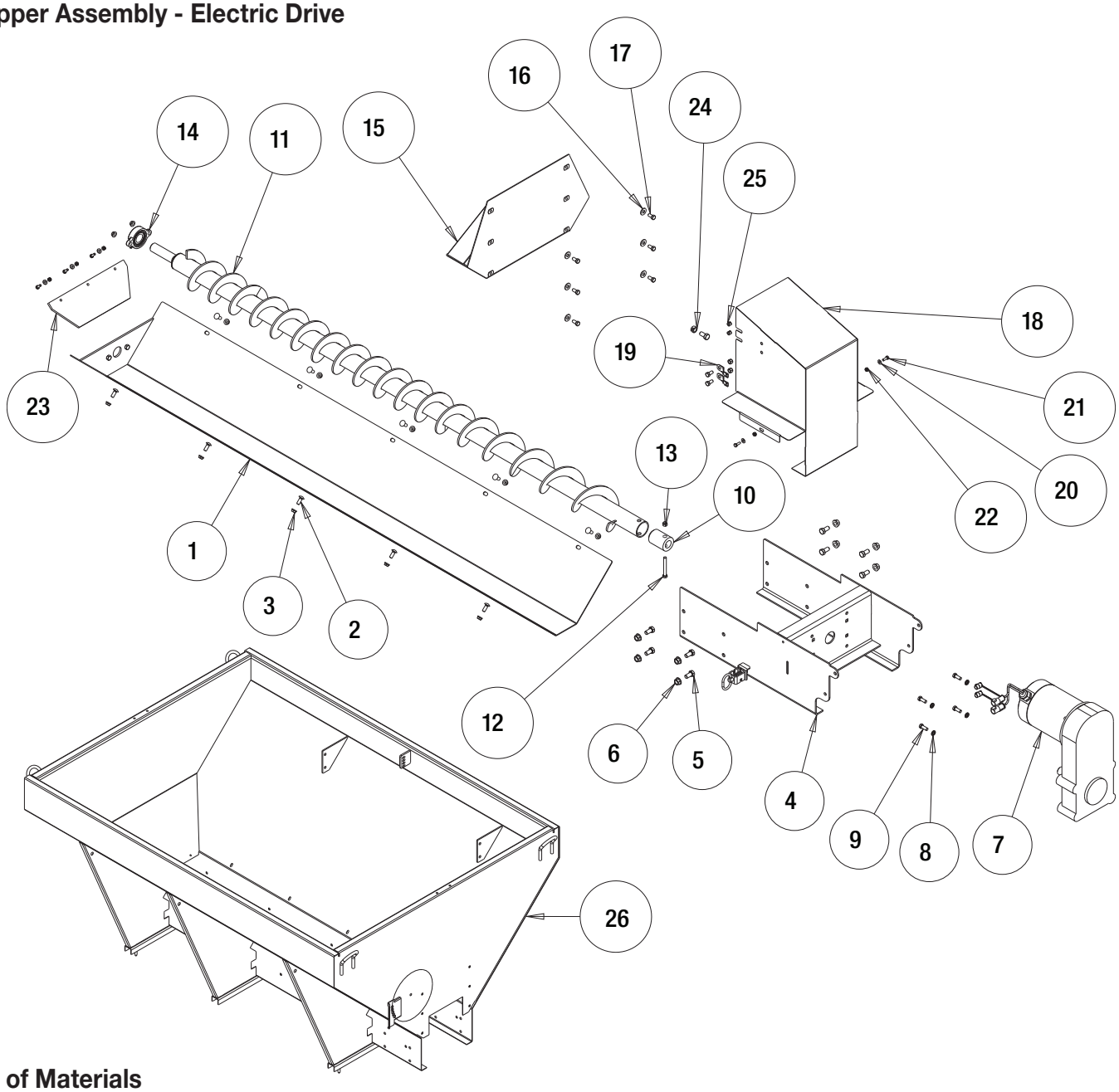
2. Lubricate all bearings (see list above) using lithium NLGI #2 rated general purpose marine grade grease

3. If applicable, inspect wire near connections checking for broken or missing insulation or corroded wires. Trim corroded wires and replace connectors if necessary. Apply dielectric grease on all electrical connections.

4. Store hopper indoors, in a cool, dry place.

5. If applicable, remove controller from truck. Store controller indoors, in a cool, dry place

Hopper Assembly - Electric Drive

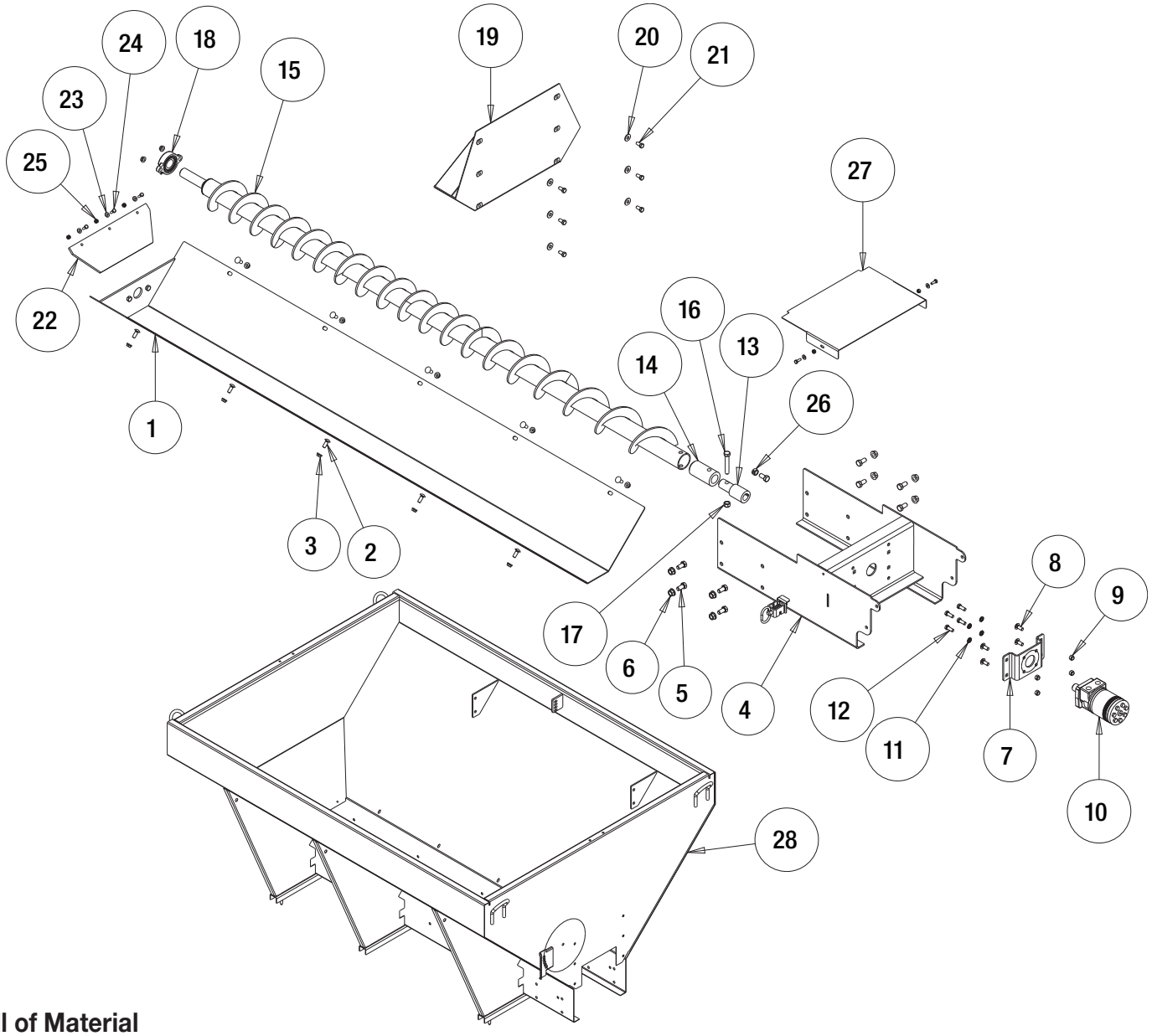


Bill of Materials

ITEM	PART NO.	OTY.	DESCRIPTION
1	3049358	1	TROUGH WELDMENT 8FT
	3050287	1	TROUGH WELDMENT 9FT
	3050423	1	TROUGH WELDMENT 10FT
2	3014960	10	BOLT, 3/8-16 X 1 CARRIAGE SHORT NECK SST
3	3001255	12	NUT, HEX FLNG-3/8-16 SST
4	3049359	1	MOTOR MOUNT WELDMENT
5	FCS050013100SS	9	SCREW, HHC-1/2-13 X 1 SST
6	3001523	8	NUT, HX FLNG-1/2-13 SST
7	3024575	1	GEAR MOTOR CONVEYOR 12 VDC
8	FWL038069009SS	4	WASHER, LOCK RHS-3/8 SST
9	FCS038016100SS	4	SCREW, HHC 3/8-16 X 1 304 SST
10	3033663	1	SLEEVE, AUGER ADAPTER
11	3033660	1	AUGER 5.25 VARIABLE, 8FT
	3050289	1	AUGER 5.25 VARIABLE, 9FT
	3037473	1	AUGER 5.25 VARIABLE, 10FT
12	3007068	1	CAP SCREW, HX HD-3/8-16X3 SST
13	FNE038016044SS	3	NUT, NYLOCK 3/8-16 X 7/16 SST
14	9240086	1	BEARING, 1-1/4 FLANGE 2 HOLE

ITEM	PART NO.	OTY.	DESCRIPTION
15	3049427	1	MATERIAL GUIDE WELDMENT
16	FWF038100007SS	6	WASHER, FLAT 3/8 USS SST
17	FCS038016075SS	8	SCREW, HHC-3/8-16 X 3/4 SST
18	3049428	1	COVER, GEAR MOTOR
19	3017121	2	BRACKET, RECEPTACLE SZ8 DEUTSCH
20	FWF025063007SS	5	WASHER, FLAT 1/4 SAE SS
21	FCS025020075SS	5	SCREW, CAP 1/4-20 X 3/4 SST
22	FNE025020031SS	5	NUT, NYLOCK, 1/4-20, GR A, SST
23	3050273	1	WIPER BELT, FRONT, MID SIZE
24	3003874	1	NUT, HEX REVERSABLE LOCK 1/2-13 SST
25	3017982	2	WIRE BUSHING OPEN/CLOSED HEYCO 2867
26	3050392	1	HOPPER WELDMENT, 10FT, 38IN
	3050416	1	HOPPER WELDMENT, 10FT, 46IN
	3050421	1	HOPPER WELDMENT, 10FT, 52IN
	3049452	1	HOPPER WELDMENT, 8FT, 38IN
	3049249	1	HOPPER WELDMENT, 8FT, 46IN
	3050122	1	HOPPER WELDMENT, 9FT, 38IN
	3050280	1	HOPPER WELDMENT, 9FT, 46IN

Hopper Assembly - Hydraulic Drive



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3	3001255	12	NUT, HEX FLNG-3/8-16 SST
4	3049359	1	MOTOR MOUNT WELDMENT
5	FCS050013100SS	9	SCREW, HHC-1/2-13 X 1 SST
6	3001523	8	NUT, HX FLNG-1/2-13 SST
7	3049363	1	MOTOR MOUNT HYDRAULIC
8	FCB037516100SS	4	BOLT, 3/8-16 X 1 CARRIAGE SST
9	FNE038016044SS	4	NUT, NYLOCK 3/8-16 X 7/16 SST
10	CM074P	1	MOTOR, HYD 4 BOLT 17.9 CI/R
11	FWL038069009SS	4	WASHER, LOCK RHS-3/8 SST
12	FCS038016100SS	4	SCREW, HHC 3/8-16 X 1 304 SST
13	924F0084	1	WELDMENT, UTS ADAPTOR
14	9240083	1	SLEEVE, AUGER ADAPTER
15	3033660	1	AUGER 5.25 VARIABLE, 8FT
	3050289	1	AUGER 5.25 VARIABLE, 9FT
	3037473	1	AUGER 5.25 VARIABLE, 10FT

ITEM	PART NO.	OTY.	DESCRIPTION
16	3001250	1	SCREW, HHC-1/2-13 X 3 SST
17	FNE050013053SS	1	NUT, NYLOCK 1/2-13 SS
18	9240086	1	BEARING, 1-1/4 FLANGE 2 HOLE
19	3049427	1	MATERIAL GUIDE WELDMENT
20	FWF038100007SS	6	WASHER, FLAT 3/8 USS SST
21	FCS038016075SS	6	SCREW, HHC-3/8-16 X 3/4 SST
22	3050273	1	WIPER BELT, FRONT, MID SIZE
23	FWF025063007SS	5	WASHER, FLAT 1/4 SAE SS
24	FCS025020075SS	5	SCREW, CAP 1/4-20 X 3/4 SST
25	FNE025020031SS	5	NUT, NYLOCK, 1/4-20, GR A, SST
26	3003874	1	NUT, HEX REVERSABLE LOCK 1/2-13 SST
27	3049873	1	COVER, AUGER
28	3050392	1	HOPPER WELDMENT, 10FT, 38IN
	3050416	1	HOPPER WELDMENT, 10FT, 46IN
	3050421	1	HOPPER WELDMENT, 10FT, 52IN
	3049452	1	HOPPER WELDMENT, 8FT, 38IN
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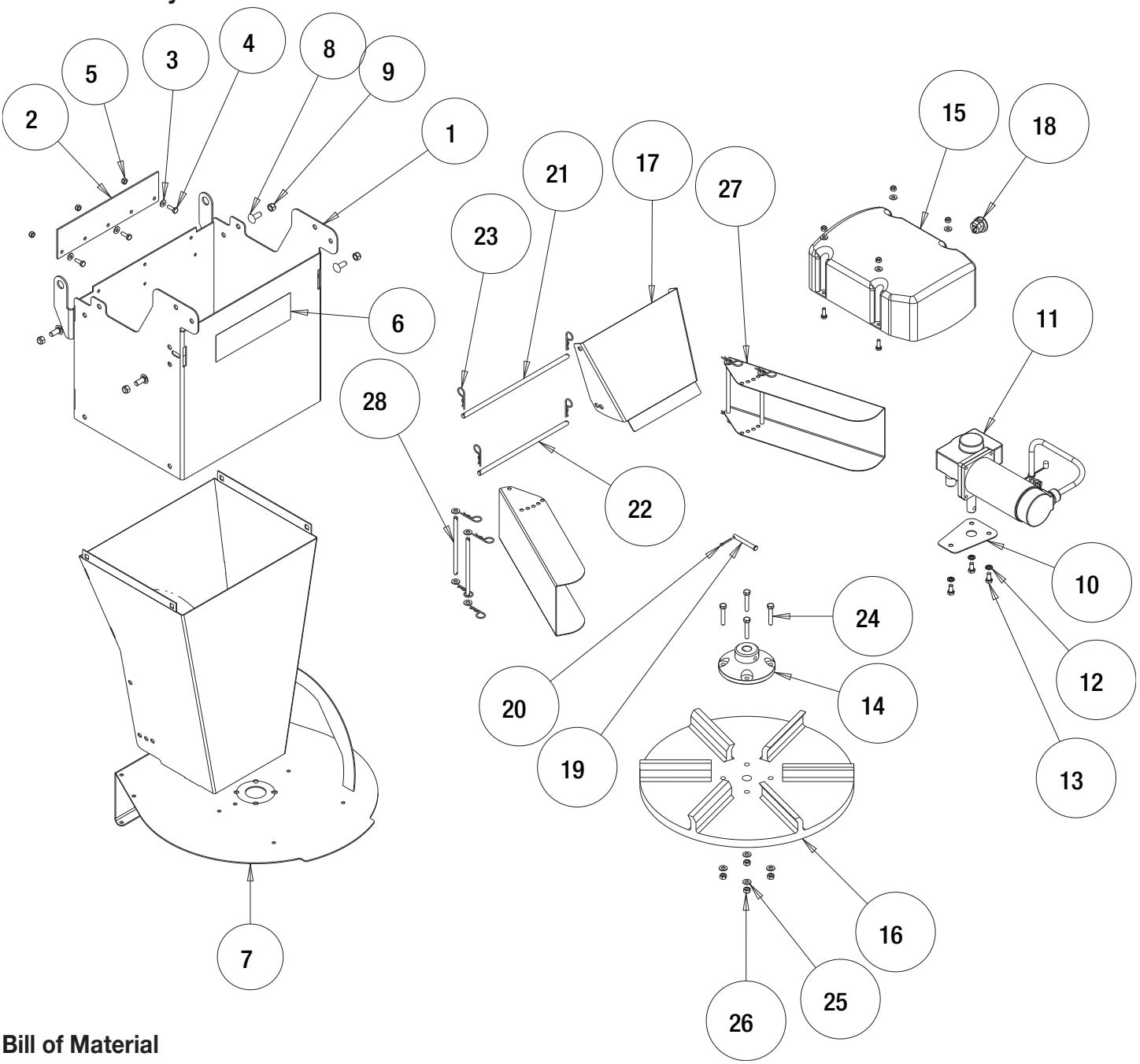
Chute Assembly - Electric Drive

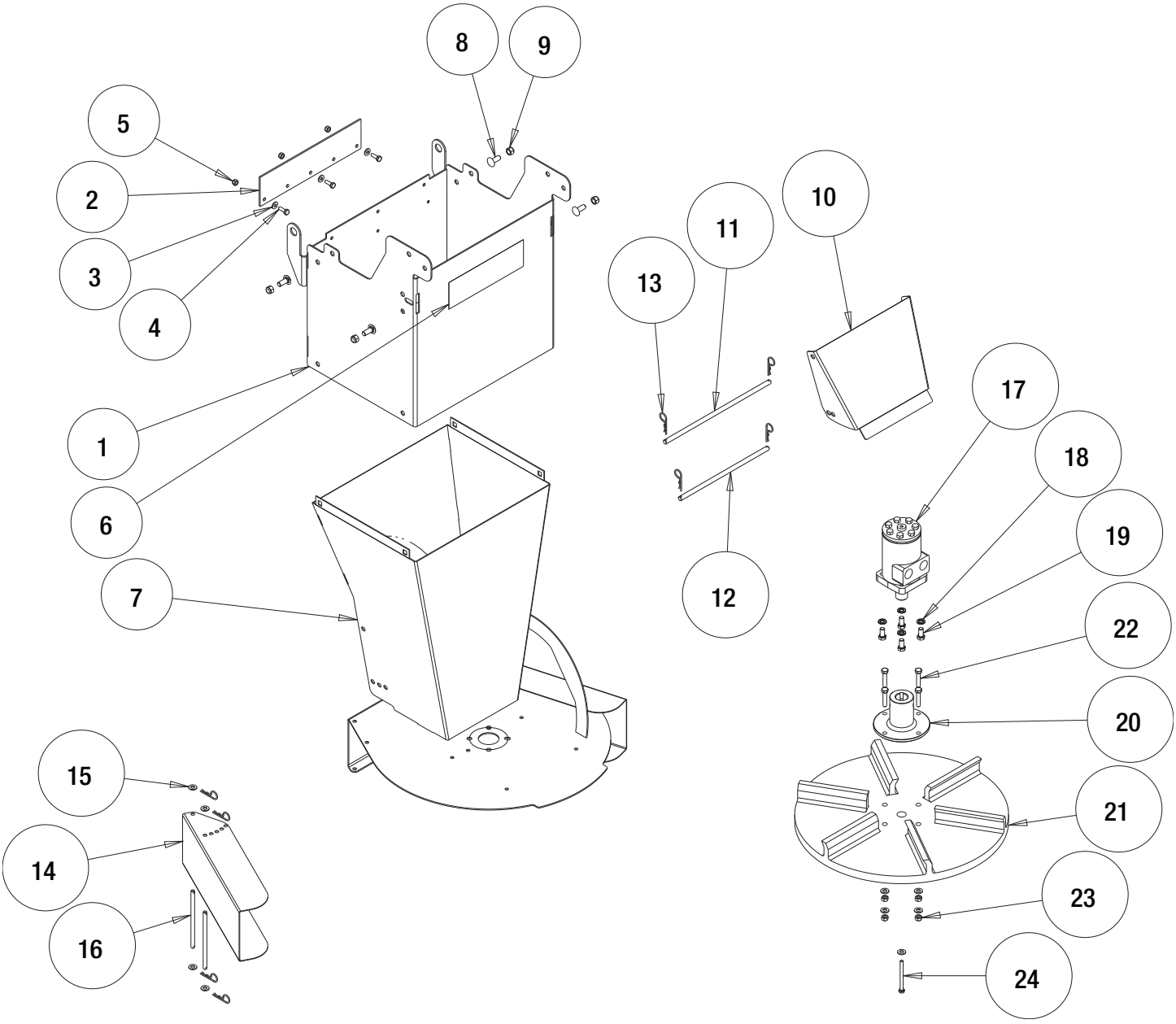


Bill of Material

ITEM	PART NO.	QTY.	DESCRIPTION
1	3030392	1	UPPER CHUTE WELDMENT
2	1410241	1	WIPER BELT, HOPPER
3	FWF025063007SS	7	WASHER, FLAT 1/4 SAE SS
4	FCS025020075SS	7	SCREW, CAP 1/4-20 X 3/4 SST
5	FNE025020031SS	7	NUT, NYLON INSERT 1/4-20 SST
6	9240131	1	DECAL #1, DANGER STAY CLEAR
7	3030420	1	CHUTE LOWER WELDMENT
8	3014960	4	BOLT, 3/8-16 X 1 CARRIAGE SHORT NECK SST
9	FNE038016044SS	4	NUT, NYLOCK 3/8-16 X 7/16 SST
10	3007824	1	RETAINER GEARMOTOR, CHUTE
11	3030222	1	GEAR MOTOR .4 HP SPINNER
12	FWL031058008SS	3	WASHER, 5/16 LOCK SST
13	FCS031018063SS	3	SCREW, HHC 5/16-18 X 5/8 SST
14	3030182	1	HUB, SPINNER POLY

ITEM	PART NO.	QTY.	DESCRIPTION
15	3030575	1	ENCLOSURE, GEAR MOTOR CHUTE
16	3030179	1	SPINNER 18" POLY CW
17	3030579	1	BAFFLE, CHUTE
18	3025065	1	BUSHING STRAIN RELIEF
19	3007113	1	PIN, CLEVIS, 5/16 X 2-1/2, .141 HOLE ZN
20	3014994	1	PIN,COTTER,1/8IN X 1IN SST
21	3030580	1	PIN, BAFFLE ATTACHMENT
22	3030581	1	PIN, BAFFLE ADJUSTMENT
23	3001257	12	PIN, HAIR COTTER STAINLESS STL
24	FCS031018175SS	4	SCREW, HHC 5/16-18 X 1 3/4 SS
25	FWF031075006SS	12	WASHER, 5/16 SAE SST
26	FNE031018034SS	4	NUT, NYLOCK 5/16-18 SS
27	3031025	2	BAFFLE CHUTE ADJUST
28	3031051	4	PIN BAFFLE CHUTE

Chute Assembly - Hydraulic Drive

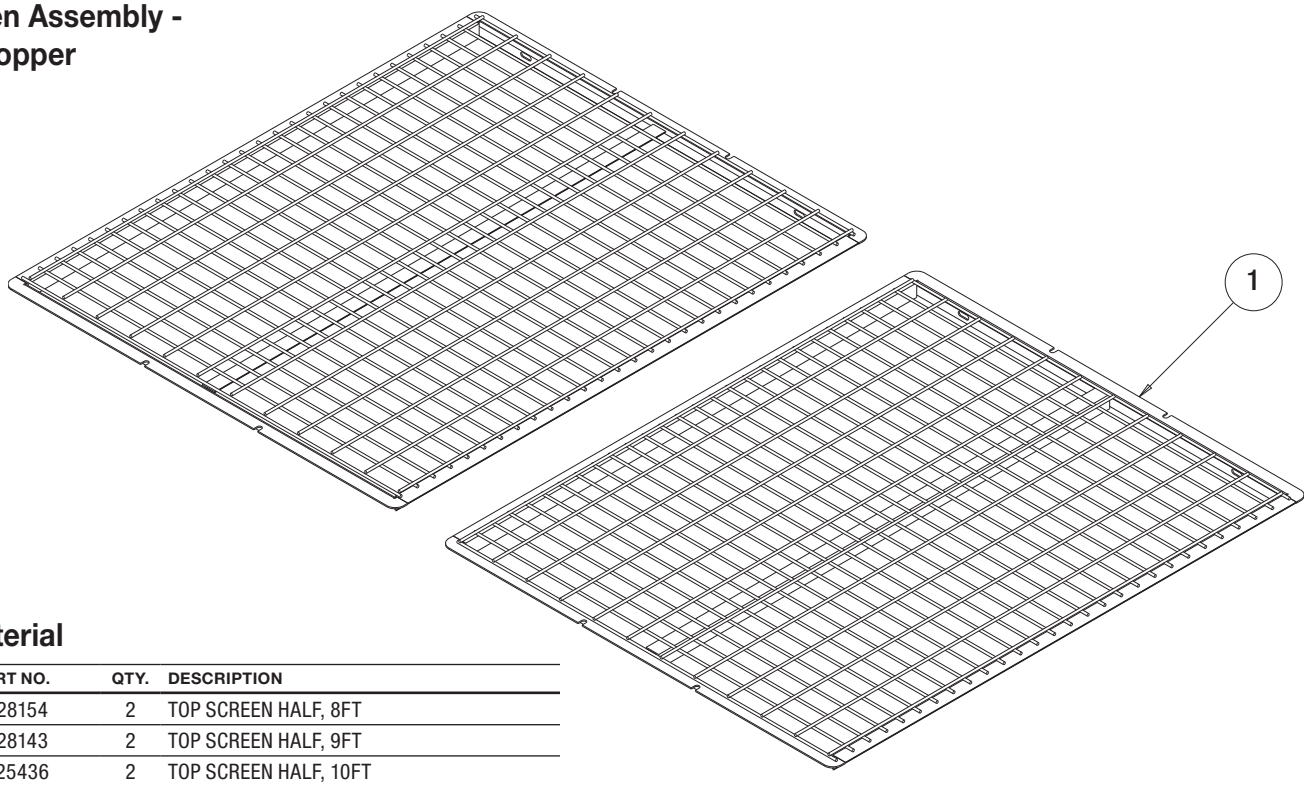


Bill of Material

ITEM	PART NO.	QTY.	DESCRIPTION
1	3030392	1	UPPER CHUTE WELDMENT
2	1410241	1	WIPER BELT, HOPPER
3	FWF025063007SS	3	WASHER, FLAT 1/4 SAE SS
4	FCS025020075SS	3	SCREW, CAP 1/4-20 X 3/4 SST
5	FNE025020031SS	3	NUT, NYLON INSERT 1/4-20 SST
6	9240131	1	DECAL #1, DANGER STAY CLEAR
7	3030420	1	CHUTE LOWER WELDMENT
8	3014960	4	BOLT, 3/8-16 X 1 CARRIAGE SHORT NECK SST
9	FNE038016044SS	4	NUT, NYLOCK 3/8-16 X 7/16 SST
10	3030579	1	BAFFLE, CHUTE
11	3030580	1	PIN, BAFFLE ATTACHMENT
12	3030581	1	PIN, BAFFLE ADJUSTMENT

ITEM	PART NO.	QTY.	DESCRIPTION
13	3001257	12	PIN, HAIR COTTER STAINLESS STL
14	3031025	2	BAFFLE CHUTE ADJUST
15	FWF031075006SS	13	WASHER, 5/16 SAE SST
16	3031051	4	PIN BAFFLE CHUTE
17	CM004P	1	MOTOR, HYD 4 BOLT
18	FWL038069009SS	4	WASHER, LOCK RHS-3/8 SST
19	FCS038016075SS	4	SCREW, HHC-3/8-16 X 3/4 SST
20	3008632	1	HUB, LONG NECK SPINNER
21	3030179	1	SPINNER 18" POLY CW
22	FCS031018150SS	4	SCREW, HHC 5/16-18 X 1.5 SST
23	FNE031018034SS	4	NUT, NYLOCK 5/16-18 SS
24	3013623	1	SCREW HH CAP 1/4-20 X 3.0 SST

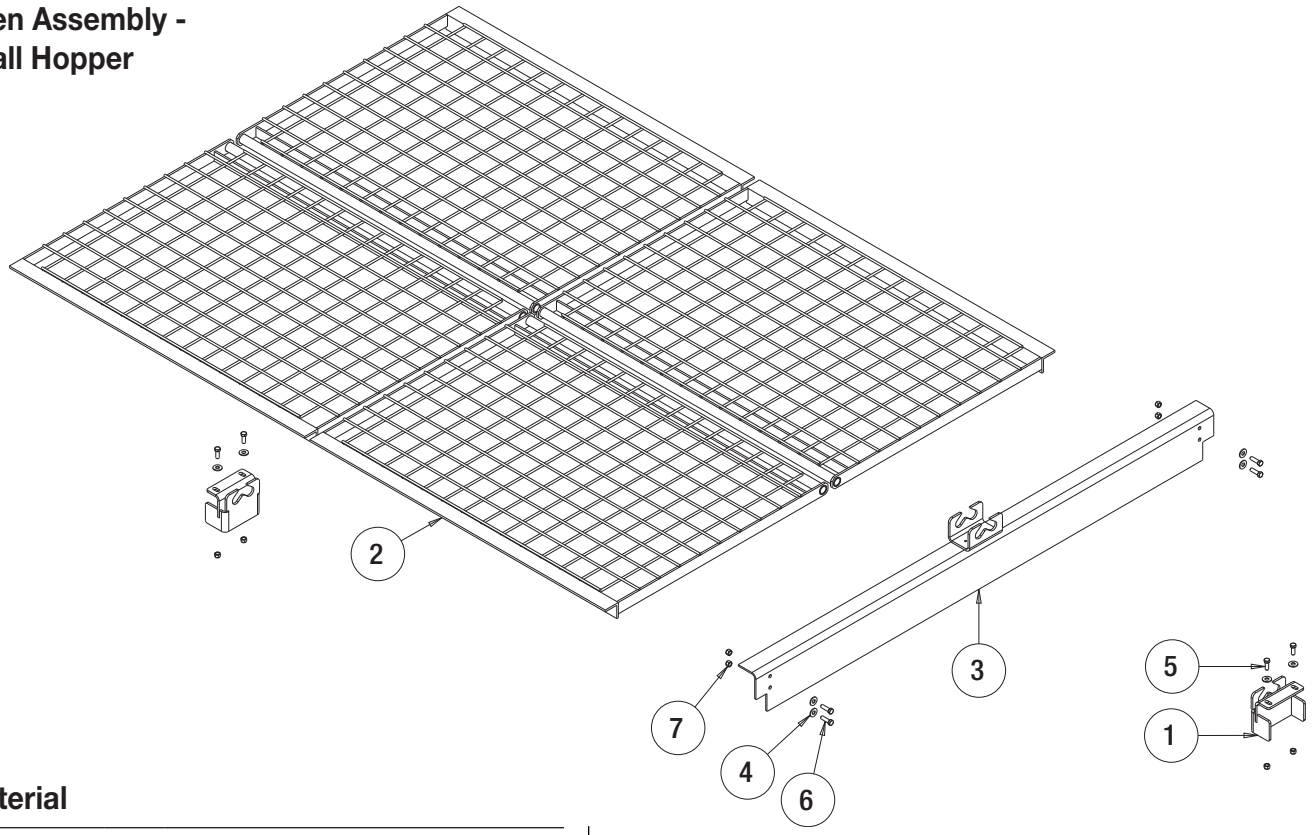
Top Screen Assembly - 38" Tall Hopper



Bill of Material

ITEM	PART NO.	QTY.	DESCRIPTION
1	3028154	2	TOP SCREEN HALF, 8FT
	3028143	2	TOP SCREEN HALF, 9FT
	3025436	2	TOP SCREEN HALF, 10FT

Top Screen Assembly - 46"/52" Tall Hopper

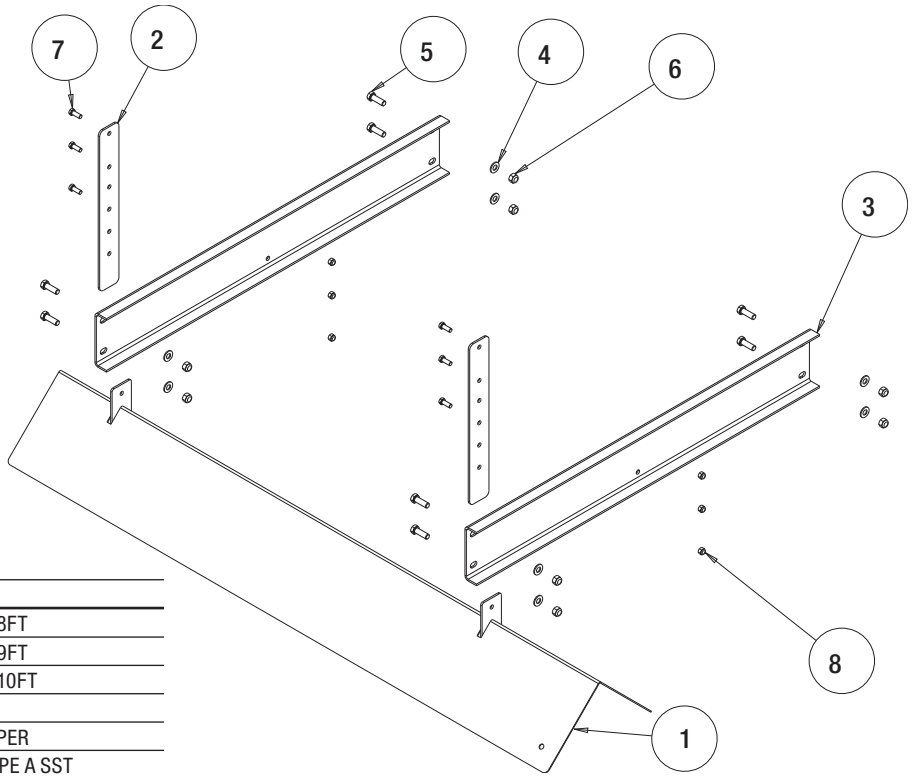


Bill of Material

ITEM	PART NO.	QTY.	DESCRIPTION
1	3049435	2	DETENT WELDM, MIDSIZE
2	3014545	4	GRATE, WELDED, PAINTED, 8FT
	3008352	4	GRATE, WELDED, PAINTED, 9FT
	3009206	4	GRATE, WELDED, PAINTED, 10FT
3	3049438	1	SUPPORT, FLAT SCREEN, MIDSIZE

ITEM	PART NO.	QTY.	DESCRIPTION
4	FWF038100007SS	8	WASHER, FLAT 3/8 USS SST
5	FCS038016100SS	4	SCREW, HHC 3/8-16 X 1 304 SST
6	FCS038016125SS	4	SCREW, HHC-3/8-16 X 1.25 SST
7	FNE038016044SS	8	NUT, NYLOCK 3/8-16 X 7/16 SST

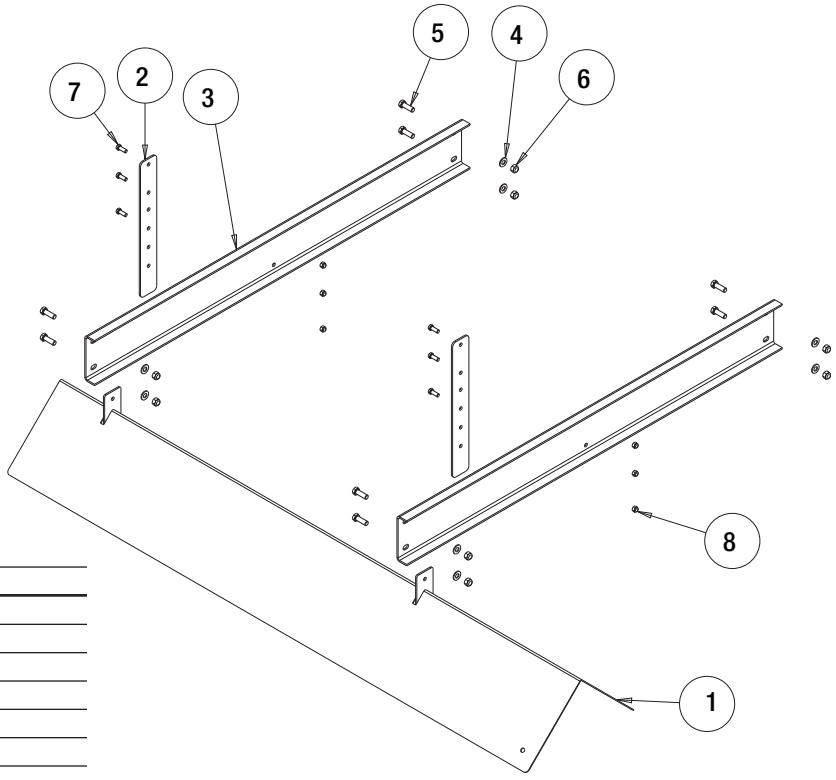
Inverted V Assembly - 38" Tall Hopper



Bill of Material

ITEM	PART NO.	QTY.	DESCRIPTION
1	3049460	1	INVERTED VEE,WELDMENT 8FT
	3028141	1	INVERTED VEE,WELDMENT 9FT
	3025254	1	INVERTED VEE,WELDMENT 10FT
2	3030225	2	BAR, INVERTED VEE
3	3049463	2	CROSS MEMBER, 38IN HOPPER
4	3003873	8	WASHER, FLAT 1/2" SAE TYPE A SST
5	3006723	8	SCREW, HEX HD 1/2-13x1.5 GR5 SS
6	FNE050013053SS	8	NUT, NYLOCK 1/2-13 SS
7	FCS038016100SS	6	SCREW, HHC 3/8-16 X 1 304 SST
8	FNE038016044SS	6	NUT, NYLOCK 3/8-16 X 7/16 SST

Inverted V Assembly - 46"/52" Tall Hopper



Bill of Material

ITEM	PART NO.	QTY.	DESCRIPTION
1	3037082	1	INVERTED VEE,WELDMENT 8FT
	3028141	1	INVERTED VEE,WELDMENT 9FT
	3025254	1	INVERTED VEE,WELDMENT 10FT
2	3030225	2	BAR, INVERTED VEE
3	3030224	2	CROSS MEMBER, HOPPER
4	3003873	8	WASHER, FLAT 1/2 ID SST
5	3006723	8	SCREW, HEX HD 1/2-13x1.5 GR5 SS
6	FNE050013053SS	8	NUT, NYLOCK 1/2-13 SS
7	FCS038016100SS	6	SCREW, HHC 3/8-16 X 1 304 SST
8	FNE038016044SS	6	NUT, NYLOCK 3/8-16 X 7/16 SST