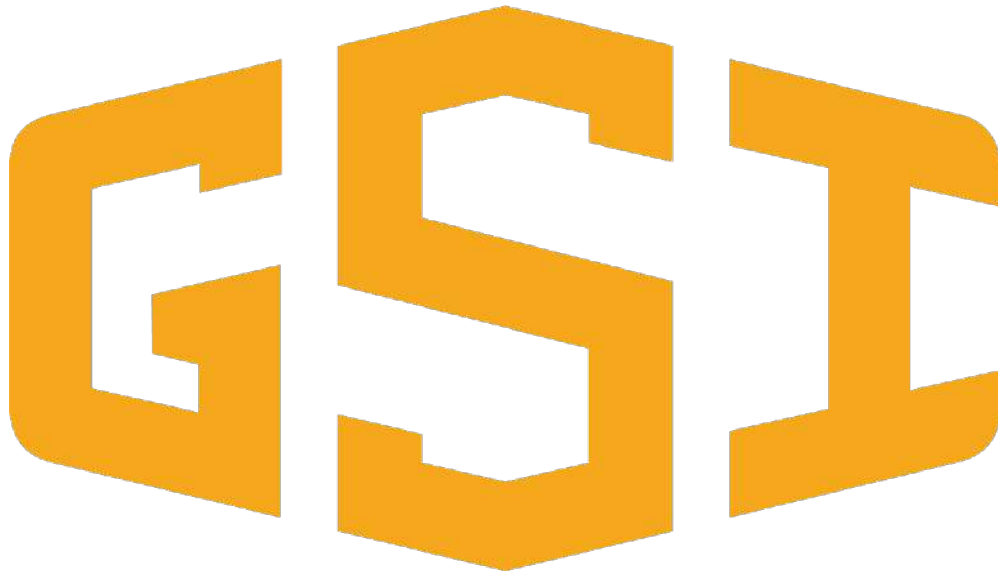


# OWNERS MANUAL



## G2 COMMERCIAL PADDLE SWEEP

## Introduction

- The purpose of this manual is to explain the operation and maintenance of the paddle sweep. It also contains a parts list for reference if replacement parts are needed.
- It is recommended that you read this manual in its entirety for the information available in order to provide the proper care and maintenance of the paddle sweep. The equipment is built to provide many years of dependable service when used properly. Reading this manual will also provide information on how to use the equipment correctly to prevent any accidents while using the system.
- If you have any further questions, comments, improvements, or suggestions regarding the contents of any of the manuals provided, please see the contact information below.
- This machine is covered by one or more United States patents. Refer to [www.siuuxsteel.com](http://www.siuuxsteel.com) for current patent information. Or scan this QR Code to go directly to the patent area on the website.



**ALL safety decals are no charge from the factory.**  
**Please replace all safety decals if damaged or missing.**  
**Your safety is important**

**WARNING!** Anyone who will be operating or working around the equipment should first read this manual to familiarize themselves with the machinery.

GSI  
1004 E. Illinois St.  
Assumption, IL 62510-0020  
Phone: 1-217-226-4421  
Fax: 1-217-226-4420

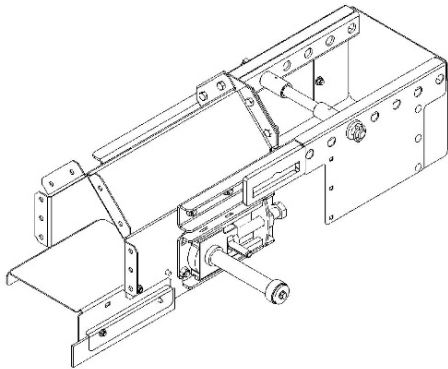
[www.gsiag.com](http://www.gsiag.com)

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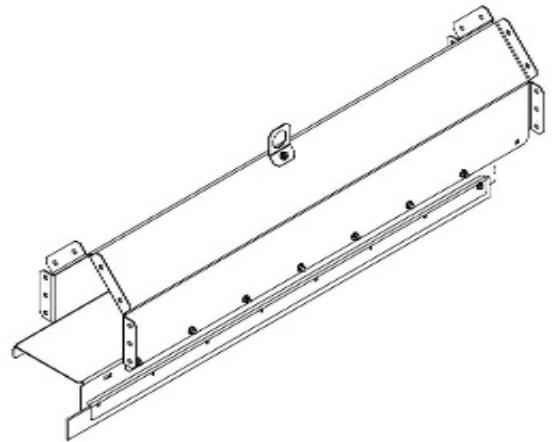
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# 1 Sweep Terminology

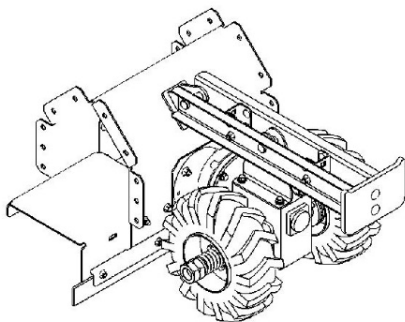
Head Section



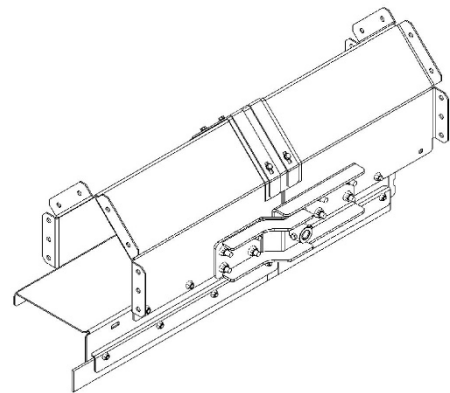
Intermediate Section



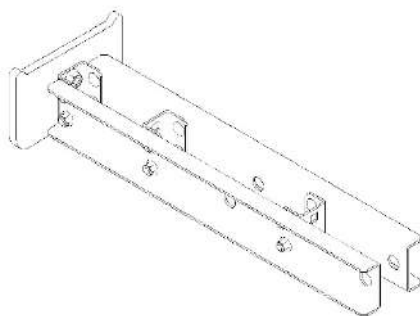
Tractor Drive Section



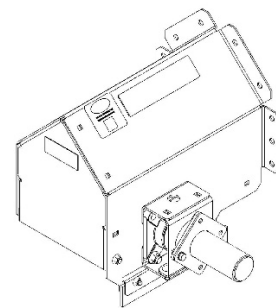
Pivot Section



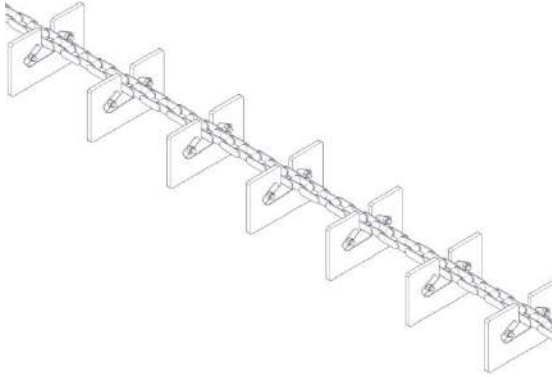
Weight Bracket



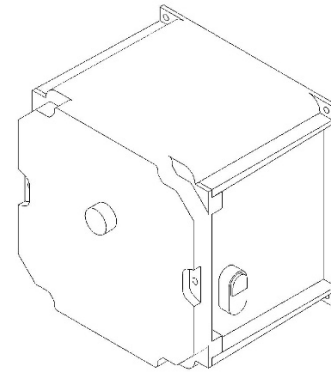
End Section



Paddle Chain



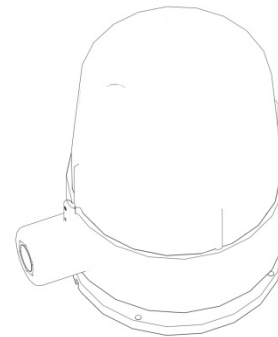
Motor Starter Box



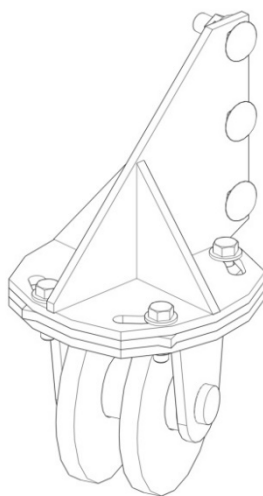
Collector Ring Assembly



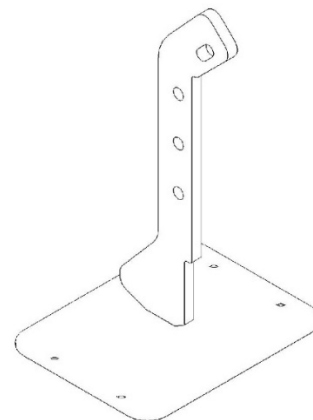
Slip Ring



Caster



Zero Entry Assembly



## 2 Safety Information

- A careful operator is the best operator. Most accidents can be avoided by observing necessary precautions. To help prevent accidents, read the following precautions before operating this equipment. Equipment should be operated only by those who are responsible and instructed to do so. Carefully review the procedures given in this manual with all operators. It is important that all operators be familiar with and follows safety precautions. Improper use of the equipment can cause serious injury or death.
- Read the operator's manual before operating equipment.
- Only allow properly trained persons to operate the equipment.
- Keep hands and feet away from all pinch points.
- Keep bystanders away during operation. In an empty bin/silo, keep everyone rearward of the sweep during operation to validate installation or maintenance.
- Do not contact (i.e. push, stand, touch, etc.) any portion of the sweep during operation.
- Since the installation of this sweep takes place within a confine space. Confine space awareness should be followed. Lockout/tag out awareness should be followed.
- A licensed electrician is recommended to wire the unit in accordance with local federal codes.
- **DO NOT** clean, lubricate, or adjust the equipment while it is running. Disengage the machine prior to doing so.
- Install and ground slip/collector ring and the entire unit in accordance with the National Electric Code (NEC) and local codes and/or ordinances.
- Always disconnect and lock out all power sources from the collector ring before attempting to perform any service function. Follow lockout/tag out procedures as outlined in OSHA section 1910.147 where appropriate.
- **An explosion proof motor is required and rated for use in a Class II, Division I, Group E, F, G dust environment.**
- Refer to maintenance chart to check all fasteners and hardware to assure tightness.
- **CAUTION:** Too much oil will cause overheating and too little will result in gear failure. Check oil level regularly. More frequent oil changes are recommended when operating continuously, at high temperatures or under conditions of extreme dirt or dust. Check that the vent plug is clear.
- Contact the bin manufacturer for anchor design on grain bins 72 feet in diameter and larger for single pass sweep utilization. Failure to do so may cause damage to the grain bin.
- **REMEMBER: The manufacturer includes or provides all reasonable means for accident prevention except a safe and careful operator.**

## 2.1 Safety Alert Symbols

- The symbol shown below is used to call your attention to instructions concerning your personal safety. Watch for this symbol it points out important safety precautions. It means **ATTENTION! Be Alert! Your Personal Safety Is Involved!**



**DANGER:** Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. The color associated with Danger is RED.



**WARNING:** Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury. The color associated with Warning is ORANGE.



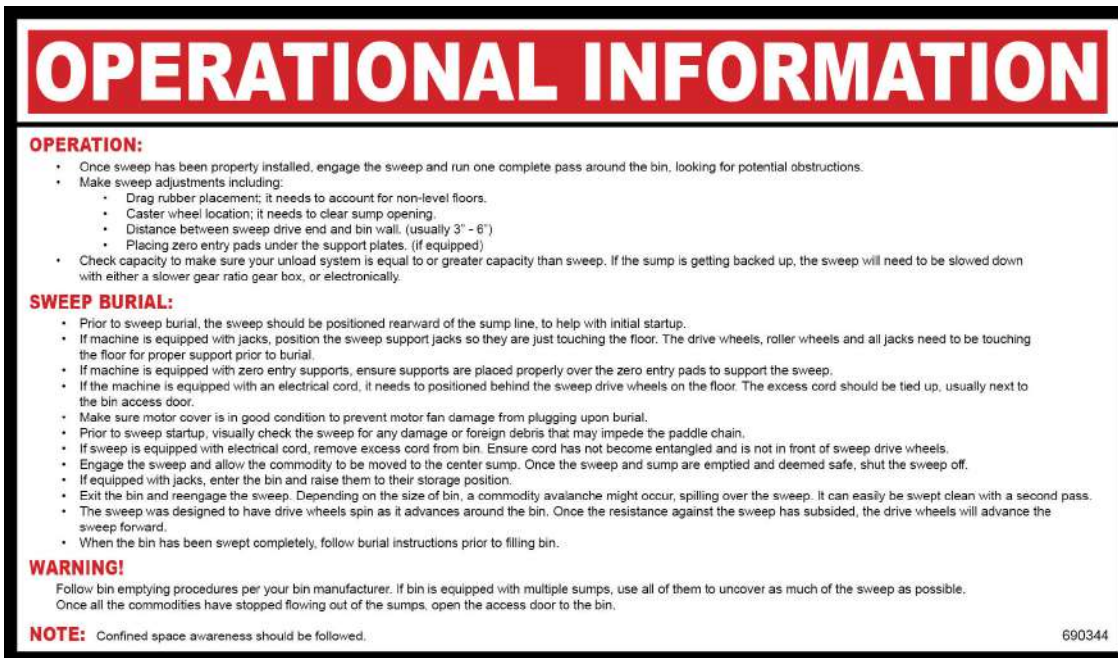
**CAUTION:** Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. The color associated with Caution is YELLOW.

## 2.2 Safety & Logo Decals

- 686033 DANGER - PADDLE CHAIN WILL CAUSE SERIOUS INJURY KEEP HANDS, FEET, AND CLOTHING AWAY



- 690344 OPERATION INFORMATION



- 688462 DANGER - Electrical Hazard. Turn off power and lock out before servicing.



- 689771 WARNING - Rotating Chain can Crush and Cut. DO NOT Operate Without Guards in Place.





### 3 Specifications

(Specifications are subject to change without notice and without liability)

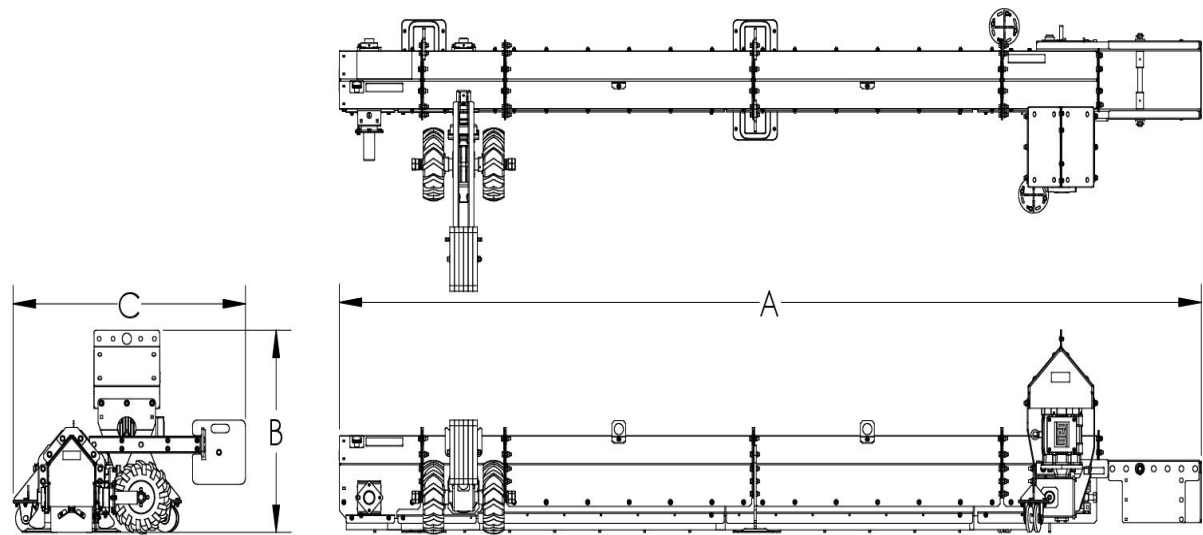
#### 3.1 Features

- **Commercial**
  - **Theoretical Capacity:** 1,000 BPH (bushels per hour) and up to 5,500 BPH. **Note:** These values can fluctuate greatly depending on the varying conditions present, including but not limited to; moisture content, grain commodity type and flowability, amount of foreign matter present, and compaction rate. These all play a part in the performance of the paddle sweep. Paddle sweep capacity may also vary as the angle of the sloping grain varies. For optimal performance, dry flowable grain is recommended. The paddle sweep is not intended for use in high moisture grain storage applications or suitable for non-grain commodities including fertilizer, lime, etc. Also, grain that may have gone out of condition due to moisture or insect activity and has become hard or caked will result in diminished capacity.
  - Drive tire size: 13 x 5.00-6 Super Lug (foam filled)
  - Designed to be fully submersed in grain
  - 2 to 15 HP explosion proof motor
  - Adjustable chain and motor mounts
  - Rubber drag to clean the floor for less sweeping

### 3.2 Burial Depth Chart

Sweep Model	Bin/Silo Type	Support System	Bin/Silo Diameters																								
			15'	18'	21'	24'	27'	30'	33'	36'	42'	48'	54'	60'	66'	72'	75'	78'	90'	105'	116'	124'	132'	135'	139'		
Floor to Eave Height																											
DGD Paddle Sweep	Corrugated Bin	Jacks	70'					40'				35'	30'	NA													
DGD Paddle Sweep	Corrugated Bin	Zero Entry						70'					60'	NA													
Power Farm Sweep	Corrugated Bin	Jacks	70'					40'				35'	NA														
Power Farm Sweep	Corrugated Bin	Zero Entry						70'				60'	NA														
Floor to Eave Height																											
G2 Commercial Paddle Sweep	Corrugated Bin	Jacks	115'										105'			90'	80'	75'	NA								
G2 Commercial Paddle Sweep	Corrugated Bin	Zero Entry	150'												140'	139	115'	106'	NA								
High Capacity Paddle Sweep	Corrugated Bin	Zero Entry	NA						150'				139'	136'	125'	114'	106'	99'	95'	88'	88'	84'					
Floor to Eave Height																											
G2 Commercial Paddle Sweep	Concrete Silo	Jacks	160'						135'				115'	105'	100'	95'	85'	75'	NA								
G2 Commercial Paddle Sweep	Concrete Silo	Zero Entry	160'												150'		125'	106'	NA								
High Capacity Paddle Sweep	Concrete Silo	Zero Entry	NA						150'				139'	136'	125'	114'	106'	99'	95'	88'	88'	84'					

3.3 Overall Dimensions & Weights



Sweep Unit for Bin Size	Length (Dim A)	Height (Dim B)	Width (Dim C)	Unit Weight (lbs)
30'	16'	36"	52"	950
33'	17'			1000
36'	19'			1050
42'	22'			1150
48'	25'			1300
54'	28'			1400
60'	31'			1550
66'	34'			2000
72'	37'			2100
75'	39'			2200
78'	40'			2250
90'	46'			2450
105'	53'	46"		3050

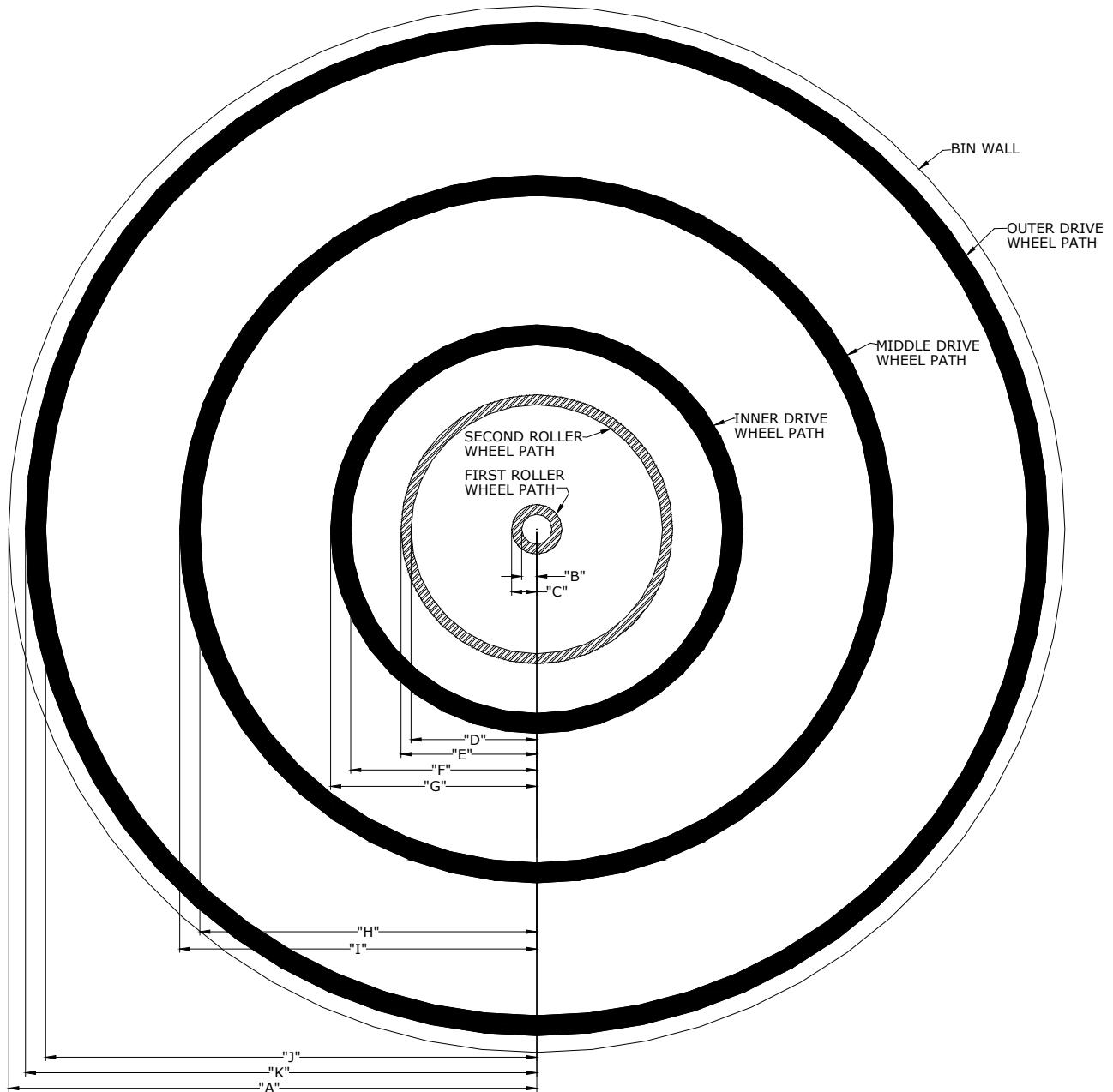
## 4 Setup

### 4.1 Prior to installation

- Extra floor supports or structure will be required to support the sweep during burial if a full aeration floor is used. These supports or structure will need to be placed directly underneath the zero entry pads/caster wheels to support the sweep in the burial condition. **Failure to do so will result in damage to the paddle sweep, sweep accessories, and aeration floor.**
- When locating the sump locations in the bin foundation it is critical to consider where the wheel paths are going to be located. Below is a chart and illustration of these paths to match to your sweep model.
- If the sweep wheel path does interfere with a sump location the sump will need to be grated or covered to allow the wheel to cross without falling into the sump.

G2 - Wheel Paths												
Nominal Bin Dia.	Sweep Length	Actual Bin Radius	First Roller Wheels Path		Second Roller Wheel Path		Inner Drive Wheel Path		Middle Drive Wheel Path		Outer Drive Wheel Path	
		A	B	C	D	E	F	G	H	I	J	K
Paddle Sweeps with Standard Configuration												
30'	14' 6"	15'	1'-8"	3'-9"	-----	-----	-----	-----	-----	-----	11'-0"	14'-0"
33'	16'	16'-6"	1'-8"	3'-9"	-----	-----	-----	-----	-----	-----	12'-6"	15'-6"
36'	17'-6"	18'	1'-8"	3'-9"	-----	-----	-----	-----	-----	-----	14'-0"	17'-0"
42'	20'-6"	21'	1'-8"	3'-9"	-----	-----	-----	-----	-----	-----	17'-0"	20'-0"
48'	23'-6"	24'	1'-8"	3'-9"	11'-2"	13'-3"	-----	-----	-----	-----	20'-0"	23'-0"
54'	26'-6"	27'	1'-8"	3'-9"	14'-2"	16'-3"	-----	-----	-----	-----	23'-0"	26'-0"
60'	29'-6"	30"	1'-8"	3'-9"	12'-2"	14'-3"	-----	-----	-----	-----	26'-0"	29'-0"
66'	32'-6"	33'	1'-8"	3'-9"	-----	-----	13'-8"	17'-0"	-----	-----	29'-0"	32'-0"
72'	35'-6"	36'	1'-8"	3'-9"	-----	-----	15'-2"	18'-5"	-----	-----	32'-0"	35'-0"
75'	37'	37'-6"	1'-8"	3'-9"	-----	-----	15'-8"	19'-0"	-----	-----	33'-6"	36'-6"
78'	38'-6"	39'	1'-8"	3'-9"	-----	-----	16'-8"	20'-0"	-----	-----	35'-0"	38'-0"
90'	44'-6"	45'	1'-8"	3'-9"	-----	-----	19'-8"	23'-0"	30'-6"	33'-6"	41'-0"	44'-0"
105'	52"	52'-6"	1'-8"	3'-9"	-----	-----	23'-2"	26'-6"	36'-0"	39'-0"	48'-6"	51'-6"
Paddle Sweeps with High Flow Configuration												
36'	17'-6"	18'	1'-8"	3'-9"	-----	-----	-----	-----	-----	-----	13'-6"	16'-6"
42'	20'-6"	21'	1'-8"	3'-9"	-----	-----	-----	-----	-----	-----	16'-6"	19'-6"
48'	23'-6"	24'	1'-8"	3'-9"	10'-8"	12'-9"	-----	-----	-----	-----	19'-6"	22'-6"
54'	26'-6"	27'	1'-8"	3'-9"	13'-8"	15'-9"	-----	-----	-----	-----	22'-6"	25'-6"
60'	29'-6"	30"	1'-8"	3'-9"	11'-8"	13'-9"	-----	-----	-----	-----	25'-6"	28'-6"
66'	32'-6"	33'	1'-8"	3'-9"	-----	-----	13'-2"	16'-6"	-----	-----	28'-6"	31'-6"
72'	35'-6"	36'	1'-8"	3'-9"	-----	-----	14'-8"	17'-11"	-----	-----	31'-6"	34'-6"
75'	37'	37'-6"	1'-8"	3'-9"	-----	-----	15'-2"	18'-6"	-----	-----	32'-0"	35'-0"
78'	38'-6"	39'	1'-8"	3'-9"	-----	-----	16'-2"	19'-6"	-----	-----	34'-6"	37'-6"
90'	44'-6"	45'	1'-8"	3'-9"	-----	-----	19'-2"	22'-6"	30'-0"	33'-0"	40'-6"	43'-6"
105'	52"	52'-6"	1'-8"	3'-9"	-----	-----	22'-8"	26'-0"	35'-6"	38'-6"	47'-0"	51'-0"

- Wheel Path Diagram

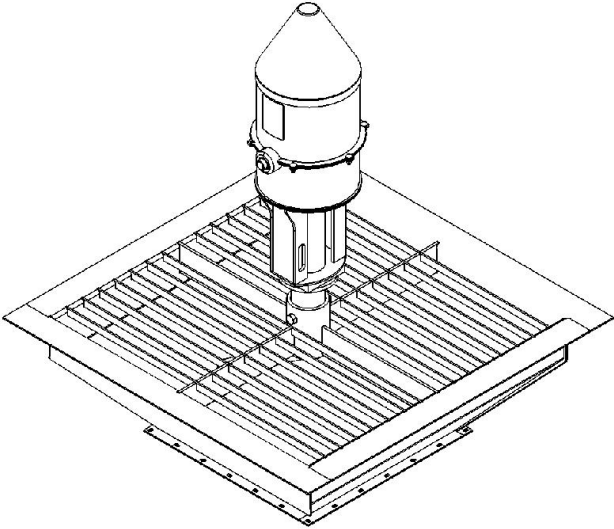
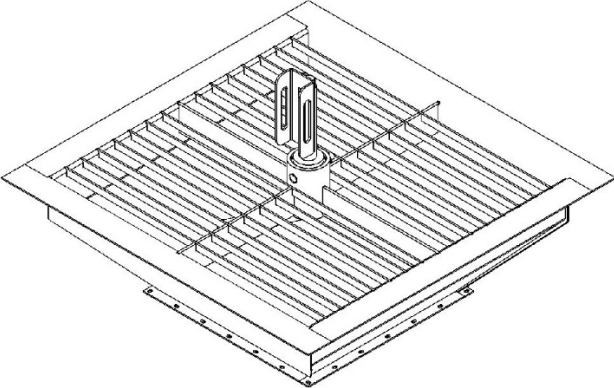
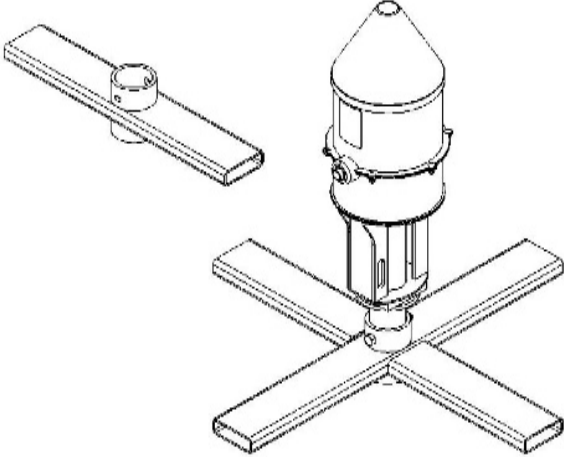


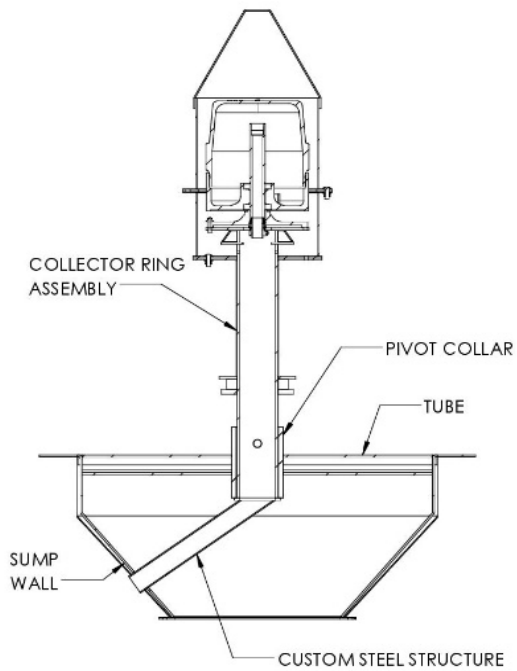
- For the sweep to properly operate and not acquire unnecessary damage the floor must be smooth with no obstructions more than 3/16".
- For the sweep to properly operate and not acquire unnecessary damage the floor gradient may not change more the 1/2" in height in a 5' span
- The center sump of the grain bin will need to be reviewed to determine which bin center pivot section is going to be installed and what modifications may need to be made. The bin center pivot options can be viewed later in this manual.
- **Warning!** Since the installation of this sweep takes place in a confined space; confined space awareness should be followed in addition to any regulations and safety precautions.

## 4.2 Installation

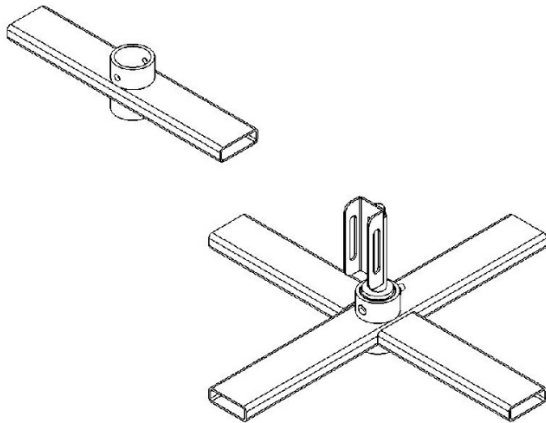
- It is recommended that the bin be empty and free of grain when the sweep is installed. If this can't be achieved, then a large enough area must be cleared that the sweep can be installed on a clean floor and free from entrapment danger.
- We recommend the use of steel track pathways on any portion of aeration floor that the steel wheels on any of the sweeps and the drive wheel on the farm sweeps contact. **Failure to do so will result in damage to the paddle sweep, sweep accessories, and aeration floor.**
- It is recommended that at least three people install a sweep as the parts can be large and difficult to handle.
- A tripod kit is available to assist in lifting components and moving them across the bin floor. The tripod can be collapsed to fit through any size door.
- Tools Needed
  - Cordless Driver
  - Ratchet
  - 1/2", 9/16", 5/8" & 3/4" shallow socket
  - 1/2" & 9/16" deep socket
  - (1) 5/8" wrench
  - (1) 11/16" wrench
  - (2) 1 1/8" wrench (for tightening paddle chain)
  - (2) Alignment punches
  - Battery powered/Explosion proof light
  - Pliers/Needle Nose
  - 10' of wire (for pulling paddle chain through)
  - Standard Allen wrench set
  - Gloves
  - Hammer

### 4.3 Bin Center Pivot Options

	<p><b>Sump with Collector Ring Assembly:</b> The sump can be ordered in advance and installed into the concrete foundation of the grain bin. Two options are available at 34"x34" and 42"x42". These sumps offer a direct coupling to the collector ring and offer a protected route for the wiring to exit the sump.</p>
	<p><b>Sump without a Collector Ring Assembly:</b> If a sump is used and a collector ring assembly is not, then this package provides an adaptor to fit into the sump and provides a place to pin the head section of the bin sweep.</p>
	<p><b>Base Pivot Kit with Collector Ring Assembly:</b> The base pivot kit (three options available) is designed to be used in bins where a pivot point does not exist or will be replaced. This kit includes a tube with a pivot collar that can be cut to fit and welded in place. The collector ring assembly then fits directly into the pivot collar.</p>

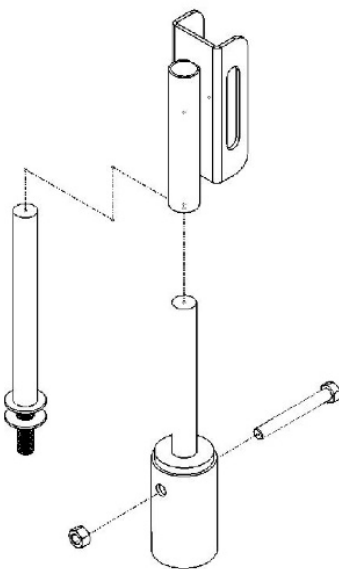


A custom steel structure will also need to be added to the base pivot to route the electrical conduit out the side of the sump. **WARNING: If avoided, this could result in death or serious injury.**



**Base Pivot Kit without Collector Ring:**

If the base pivot kit (three options available) is used and a collector ring is not, then this package provides an adaptor to fit into the base pivot kit and provides a place to pin the head section of the bin sweep.



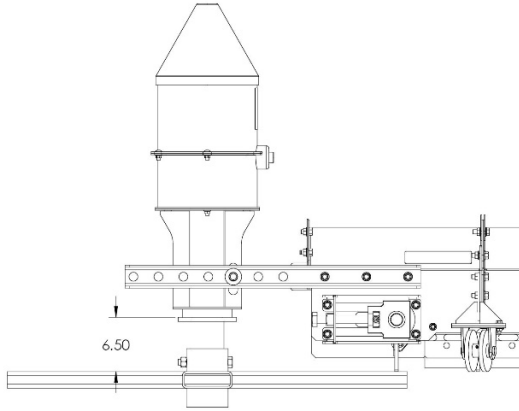
**Universal Pivot Kit:**

If a pivot point already exists inside the bin and a collector ring assembly is not used, then this kit offers a variety of options to create a place to pin the head section of the sweep to. This kit may also require modification of the existing sump.

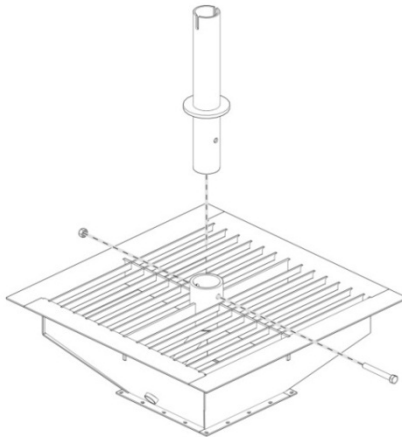


#### 4.4 Collector Ring Assembly

Overview – If your sweep model is equipped with a Collector Ring Assembly, it will be delivered preassembled. If disassembly is not required to ease installation the pivot post may simply slide into the pivot collar and secured with the  $\frac{3}{4}$ " bolt. If disassembly is required; the following steps outline how to re-assemble the collector ring assembly.

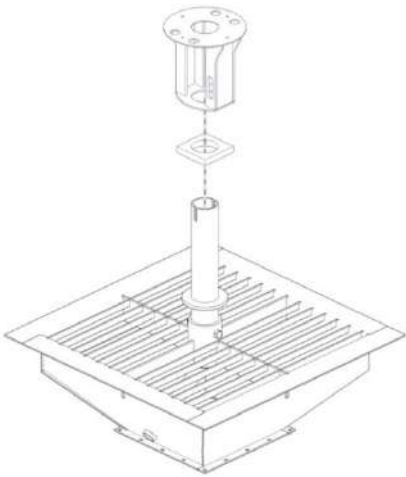
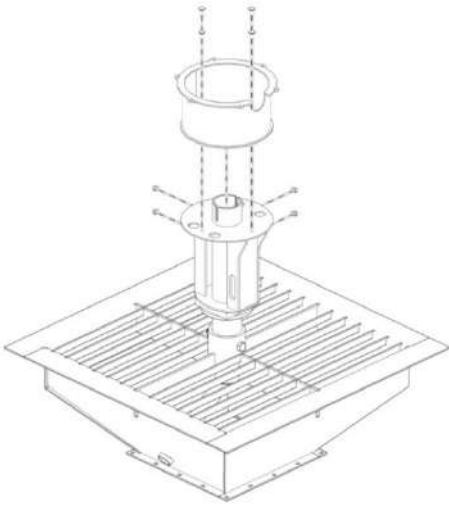
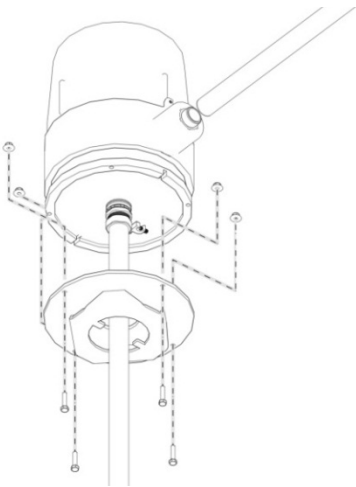


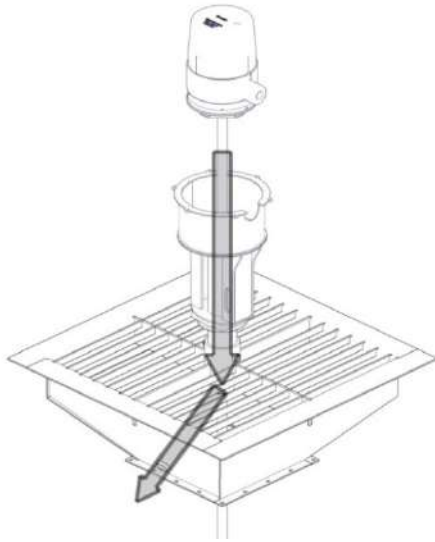
A bin center pivot option will first need to be selected and installed. **No matter what option is chosen it is critical that the top of the stop plate for the collector ring assembly be installed 6  $\frac{1}{2}$ " from the top of the floor surface that the sweep will be moving across.** This may require raising or lowering the sump or base kit to obtain the correct height.



Install the pivot post by sliding it into the bin center pivot and securing it with the supplied  $\frac{3}{4}$ " bolt and nut.

**Note: If not using a sump the pivot post must be unitized with the sump mount. The pivot post cannot rotate with the paddle sweep. Failure to do so can result in damage to the collector ring assembly and slip ring.**

	<p>Install the two-piece pivot bushing by first sliding on the UHMW block that will rest on the stop plate. The bushing assembly then slides onto the pivot post and rest on the UHMW block.</p>
	<p>Install the lower slip ring casing by fastening it to the bushing assembly with the four supplied carriage bolts and nuts. Note that the relief for the slip ring post should line up with the slot for the connector pin on the bushing.</p>
	<p>Before installing the slip ring into the collector ring assembly; bolt on the alignment plate as shown.</p>

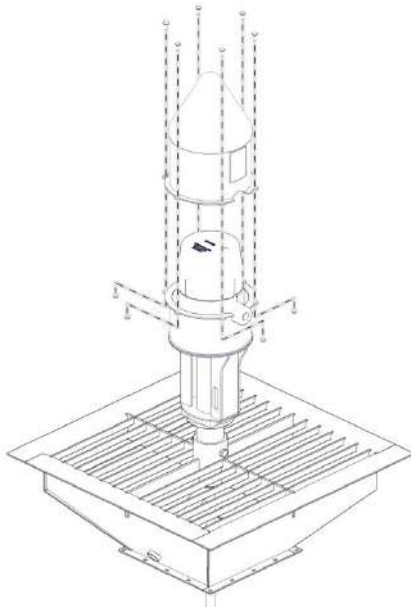


Slide the slip ring, with attached alignment plate, into the lower slip ring casing.

Feed the slip ring bottom exiting conduit & wiring through the pivot post and out the sump tube.

**Note:** If not using a sump the conduit must be protected by a metal tube. (not supplied)

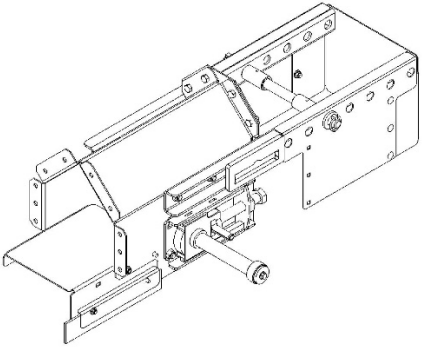
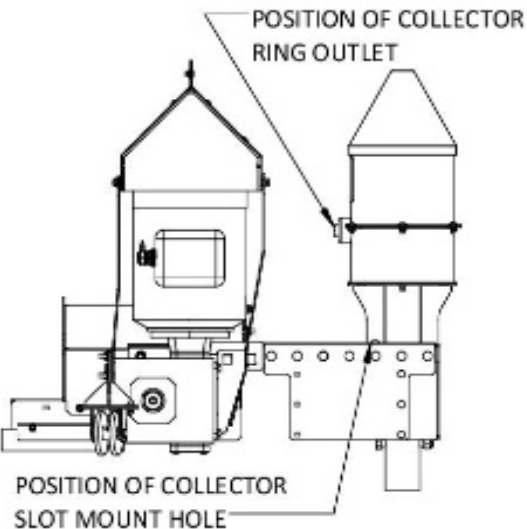
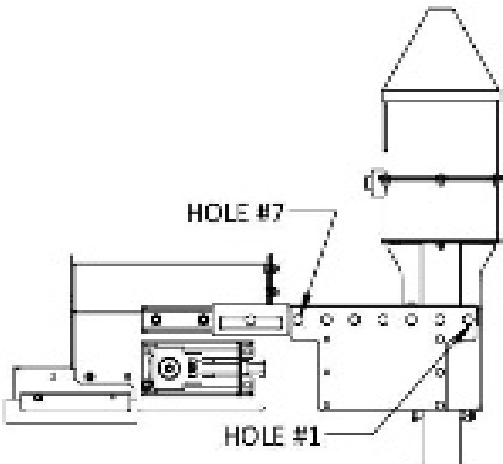
The alignment plate tabs will engage with the pivot post.

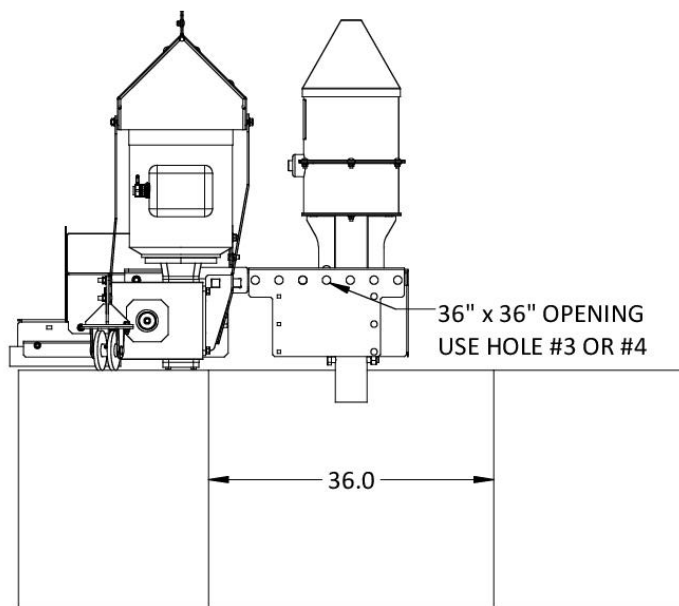


Fasten the upper slip ring casing to the lower slip ring casing as shown.

## 4.5 Head Section Assembly

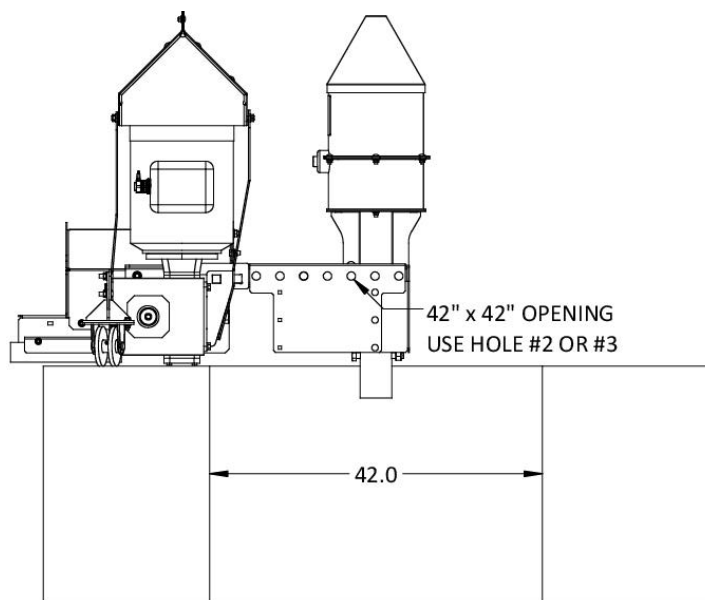
Overview – The head section assembly will be delivered preassembled. The installation of the head section will determine the final location of the sweep. So planning the pin location is critical to avoid having to move the entire sweep.

	<p>Head Section</p>
	<p>Directions for positioning head section over sump opening. Refer to the diagram for orientation of collector ring components to the head section.</p> <p><b>Note:</b> It's important to position the conduit outlet towards the body of the sweep, to avoid potential damage during bin unloading.</p>
	<p>Refer to the diagram for a description of mount hole #1 through #7 on the head section.</p>

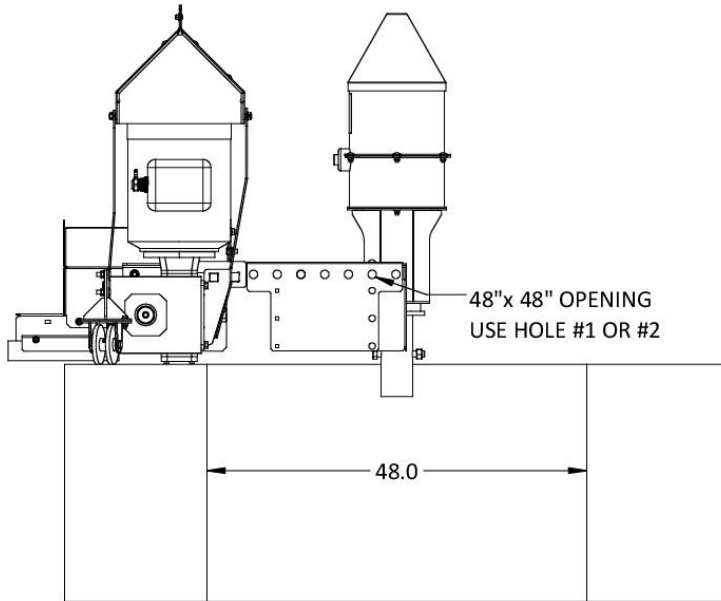


The diagram displays the mount pin position to the collector ring mount slot hole for sump openings that are 36" x 36"

For sumps smaller than 36". Please use one of the pin holes #4 through #7.



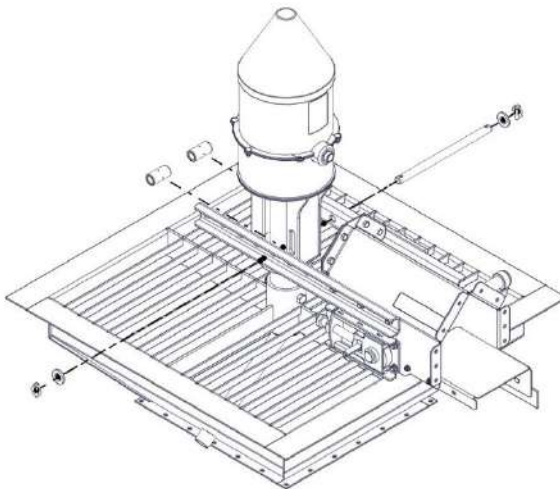
The diagram displays the mount pin position to the collector ring mount slot hole for sump openings that are 42" x 42"



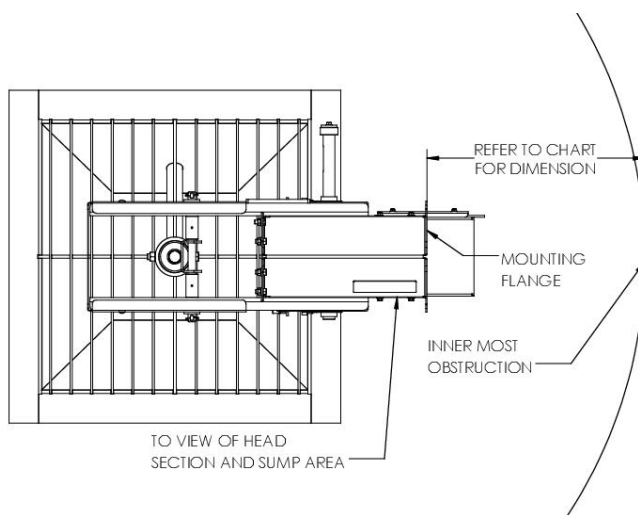
The diagram displays the mount pin position to the collector ring mount slot hole for sump openings that are 48" x 48"

If the sump opening is rectangular (and larger than 36" on one side) in shape please contact sweep manufacture for further instructions.

**Warning:** Failure to pin the head section in the appropriate position may result in damage to sweep components.



Pin the head section to the pivot at the desired hole location previously shown. The pivot pin will go through both pivot arm plates on the head section as well as two spacers and the pivot mount. The pin is then secured with two lynch pins and washers on the outside of the pivot arm plates.

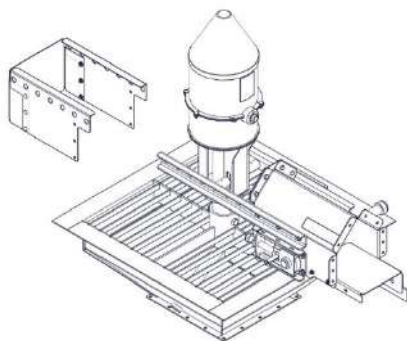


Rotate the head section so that it is facing the innermost obstruction inside the bin.

Refer to chart below for the dimension of your sweep for your bin size. Measure from the mounting flange of the head section to this obstruction.

If this dimension causes the sweep to interfere with an obstruction, then an intermediate section will need to be removed to shorten the sweep to avoid. Only remove/modify sweep sections between the head section and 1<sup>st</sup> tractor drive section.

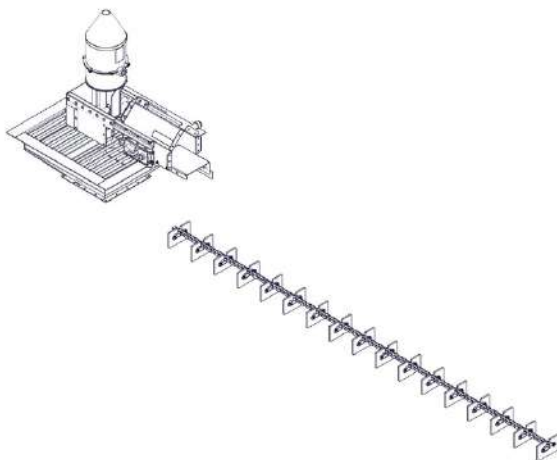
Nominal Sweep Length	Bin Diameter	Distance from Head Section Flange to End of the <b>Standard</b> Sweep (inches)	Nominal Sweep Length	Bin Diameter	Distance from Head Section Flange to End of the <b>High Flow</b> Sweep (inches)
14' 6"	30'	144			
16'	33'	162			
17' 6"	36'	180	17' 6"	36'	174
20' 6"	42'	216	20' 6"	42'	210
23' 6"	48'	252	23' 6"	48'	246
26' 6"	54'	288	26' 6"	54'	282
29' 6"	60'	324	29' 6"	60'	318
32' 6"	66'	372	32' 6"	66'	366
35' 6"	72'	396	35' 6"	72'	390
37'	75'	414	37'	75'	408
38' 6"	78'	432	38' 6"	78'	426
44' 6"	90'	504	44' 6"	90'	498
52'	105'	594	52'	105'	588



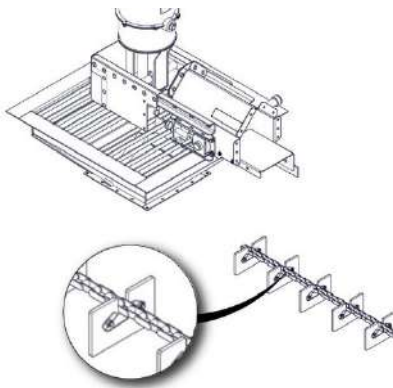
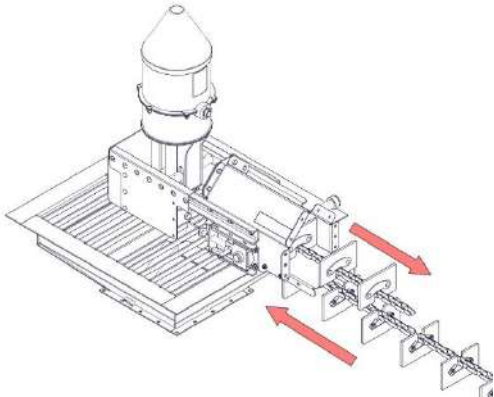
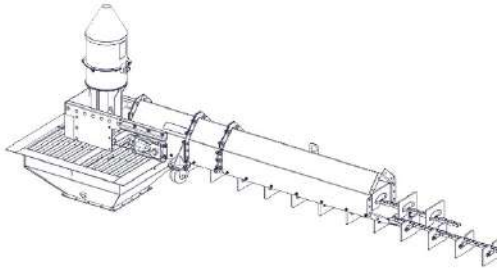
Once the final pin location is set the head section skirt can be installed. Secure with washers and lynch pins.

#### 4.6 Intermediate Sections and Paddle Chain Installation

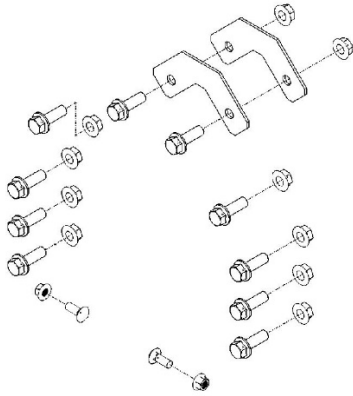
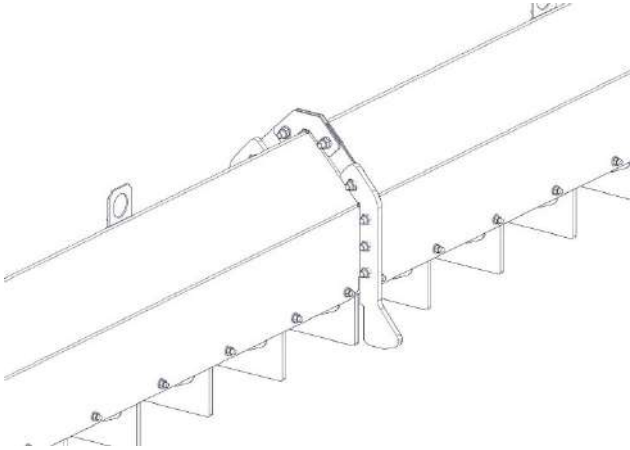
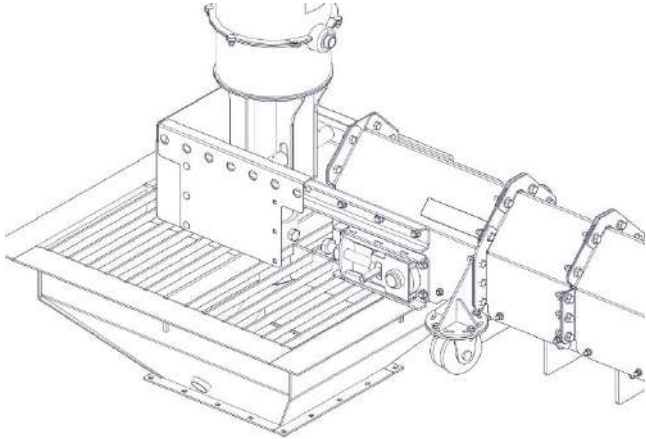
Overview – Locate the parts diagram for your sweep model in the back of this manual to determine the order of intermediate section and their locations. Setting the sections on the ground in the order of installation can aid in the assembly process. Note: Do not install the zero entry pads until noted to do so in this manual.

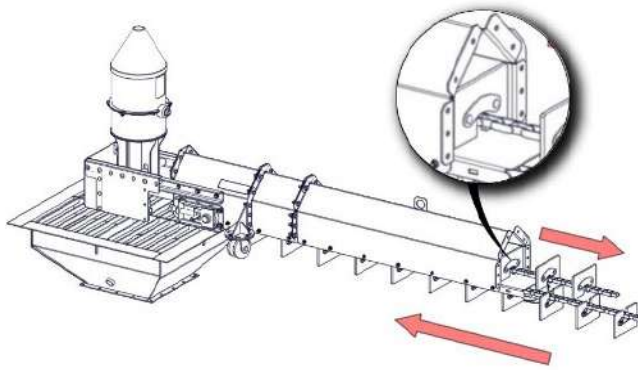


Lay the paddle chain on the floor from the head section out to the bin wall.

	<p>The chain should be orientated such that the chain tabs are on the bin wall side of the rubber paddles.</p>
	<p>Feed the chain through the bottom of the head section.</p> <p>Then over the sprocket and out the top.</p>
	<p>Begin installing the intermediate sections as shown in the parts list and diagrams section of the manual according to your sweep model.</p> <p><b>Assembly Note:</b> The divider plate will extend pass the cover plate by 6". This will result in a ¼" gap from divider plate to divider plate.</p>

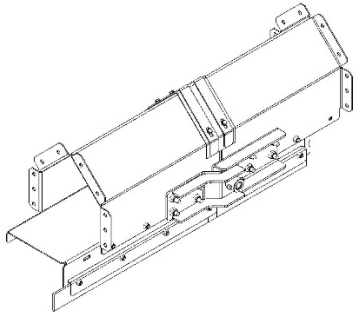
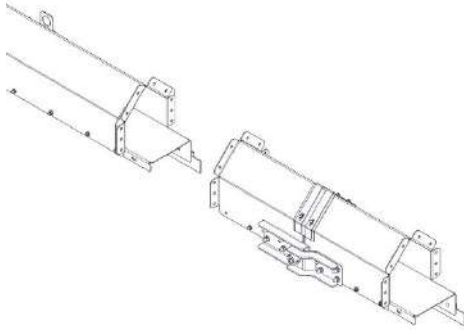


	<p>Each section attaches with a section hardware bag. Each bag consists of ten 1/2" carriage bolts and flange nuts to attach the section flanges together. The remaining two 3/8" carriage bolts and flange nuts are used to attach the hood covers to the divider. The two reinforcement plates are used at the peak of the flange connection.</p>
	<p>All sweep section bolts (1/2" Grade 8) should be torqued to 100 lb. ft. without the use of an impact wrench.</p>
	<p>After the first section is installed, the front caster can be installed. The caster is shipped loose.</p> <p>The caster rotation can be set to the approximate path it will be traveling using the multiple bolt holes and slots available.</p>

	<p>Continue pulling the chain through the top portion of each section as you assemble them.</p> <p>Installing the zero entry stands as each section is installed will assist with supporting the sweep.</p> <p>Tip: Be sure that the paddles do not get pinched between the flanges when bolting them together.</p>
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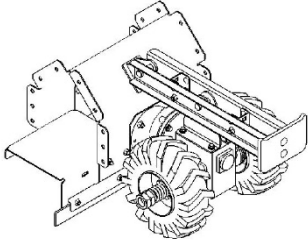
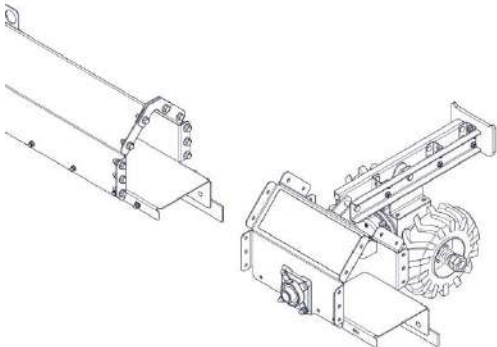
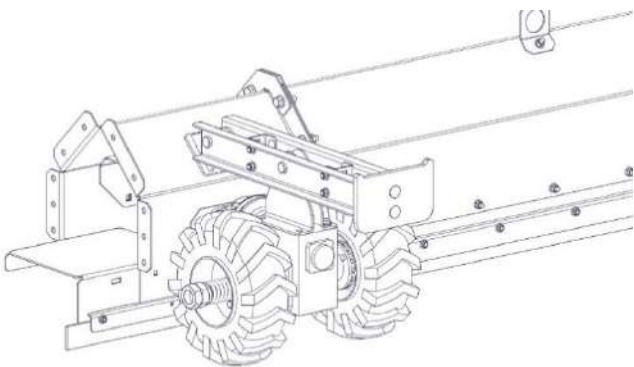
#### 4.7 Pivot Section Installation

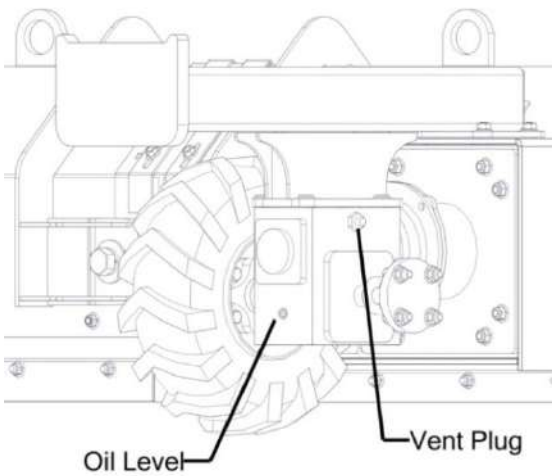
Overview – The pivot sections will ship preassembled. Not all sweep sizes have a pivot section. If no pivot section is included proceed to next step

<p>Pivot Section</p> 	
	<p>Begin installing the pivot section as shown in the parts list and diagrams section of the manual according to your sweep model.</p>

## 4.8 Tractor Drive Section Installation

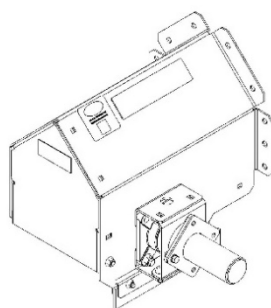
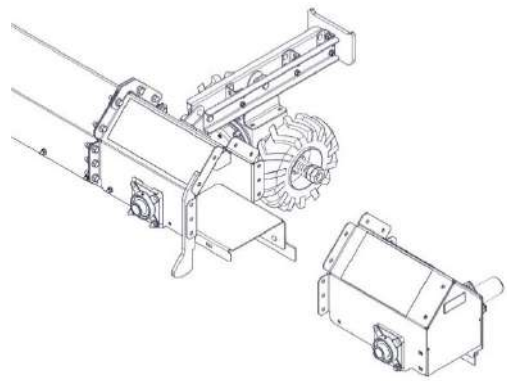
Overview – The tractor drive sections will ship preassembled. All sweep sizes have at least one tractor drive section, but some can have two or three.

<p>Tractor Drive</p>  A detailed line drawing of a tractor drive section. It shows a large, knobby drive sprocket mounted on a horizontal shaft. The sprocket is connected to a frame that includes a mounting bracket with several bolt holes. A smaller, similar sprocket is visible behind the main one.	
 A line drawing showing the tractor drive section being positioned to be attached to a larger frame. The frame has a long horizontal beam with several mounting points. The drive section is shown from a side-on perspective, ready to be bolted onto the frame.	<p>Begin installing the tractor drive section(s) as shown in the parts list and diagrams section of the manual according to your sweep model.</p>
 A line drawing showing the tractor drive section fully installed on the frame. The drive sprocket is now part of a larger assembly that includes a chain drive system. A chain is visible running from the drive sprocket to another sprocket further along the frame. The entire assembly is mounted on a long horizontal beam.	<p>It will ease installation if the gearbox is supported such that the tires are off the ground.</p> <p>This will allow the shaft to rotate as you pull the paddle chain across the drive sprocket.</p>

 <p>Oil Level</p> <p>Vent Plug</p>	<p>When installing a pivot section with a drive unit be sure to check the vent plug location and oil level.</p>
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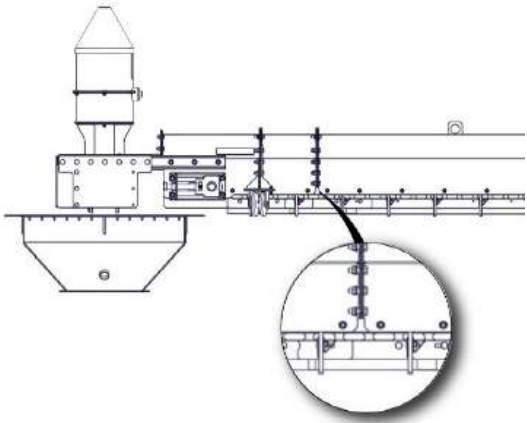
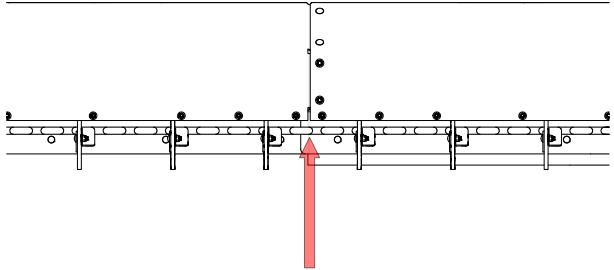
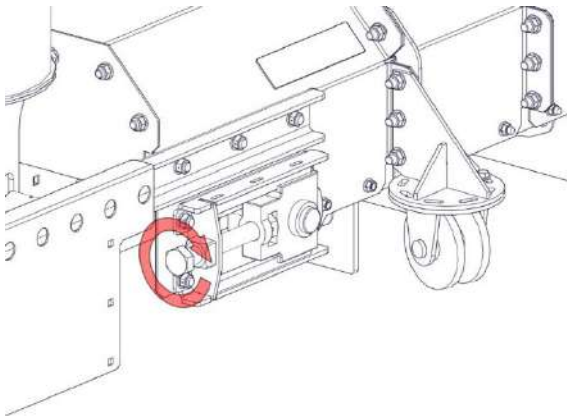
## 4.9 End Section Installation

Overview - The end section will deliver preassembled.

<p>Drive End</p> 	
	<p>Once the end section is reached it can be bolted on.</p> <p>Continue to feed the paddle chain through the top of the section and around the sprocket.</p> <p>Connect the paddle chain using the supplied connecting link.</p>

#### 4.10 Paddle chain tensioning

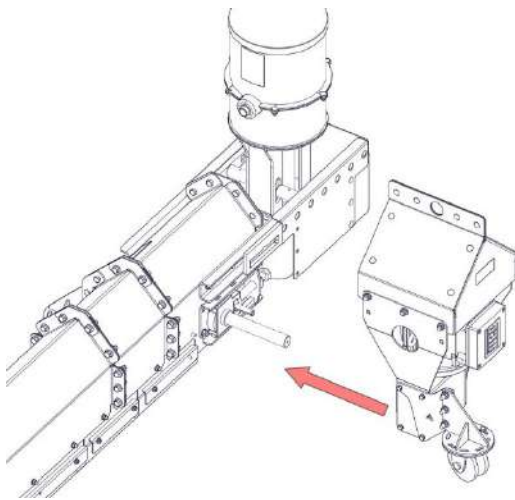
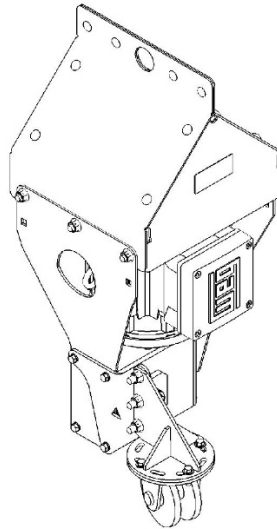
Overview – The paddle chain will need to be tensioned twice before installation is complete. The initial tensioning will be prior to operation and tension must be checked again after operation. This will ensure proper tension upon startup under load.

	<p>Access the chain via the front opening area where material enters.</p>
	<p>At the center of the sweep (i.e., 15 ft. from sump on 30 ft. sweep) check for tension by pushing up on chain.</p> <p>The chain should deflect approximately <math>\frac{3}{4}</math>" , or half of the thickness of the chain.</p> <p>Less deflection indicates that the chain is too tight; more deflection indicates that the chain is too loose.</p> <p>The chain must not lift high enough to contact the sweep housing.</p>
	<p>To adjust the chain tension, use the two take-up assemblies at the head of the bin sweep. Loosen the locking nuts on the adjuster bolt. Turn the adjuster bolt clockwise to increase chain tension or counterclockwise to reduce chain tension.</p> <p>Ensure that both adjusters are equally adjusted to maintain proper sprocket and chain engagement.</p> <p>Once the sweep is assembled and ready for operation, run the sweep for 5 minutes. Check the chain tension again and adjust as needed to achieve <math>\frac{3}{4}</math>" of deflection.</p>

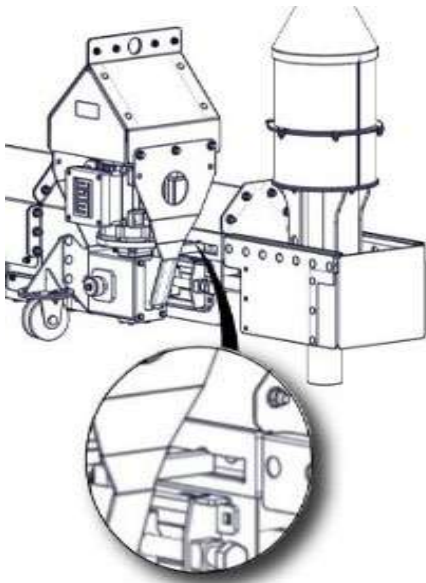
## 4.11 Motor and Gearbox Installation

Overview – The motor and gearbox will deliver preassembled. Disassembly may be required to move into an existing bin.

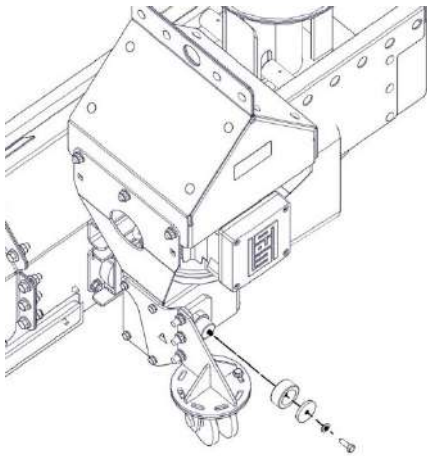
Motor/Gearbox Assembly



Utilizing the supplied key, slide the gearbox onto the head section shaft.



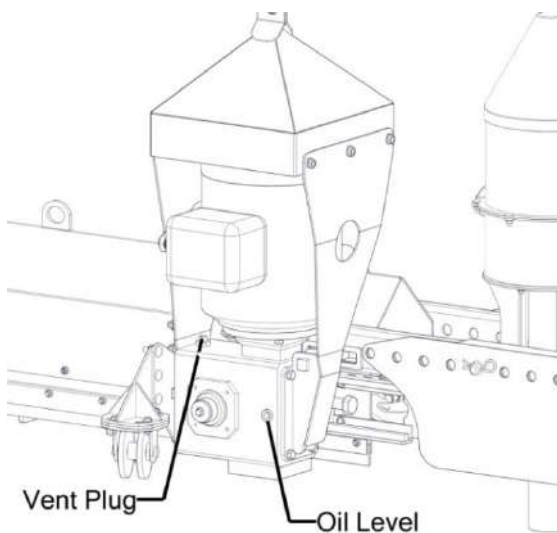
Ensure that the torque arm engages into the torque arm slot to keep the assembly pinned in position.



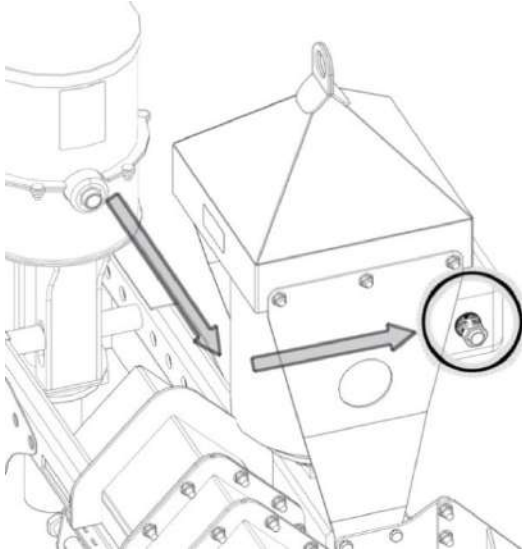
Secure the motor and gearbox assembly using the bump stop and bolt threaded into the end of the head shaft.

Note: The bump stop is not utilized on every sweep model.

Then tighten the set screws on each side of the gearbox.

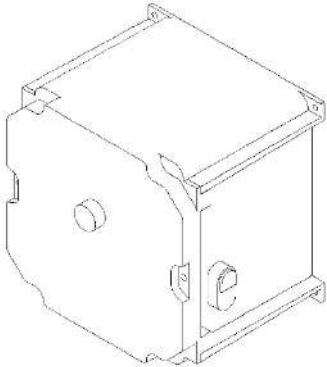
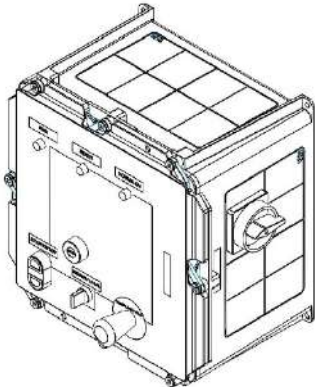


Ensure the gearbox vent plug is in the proper location and that the gearbox has the correct amount of oil.

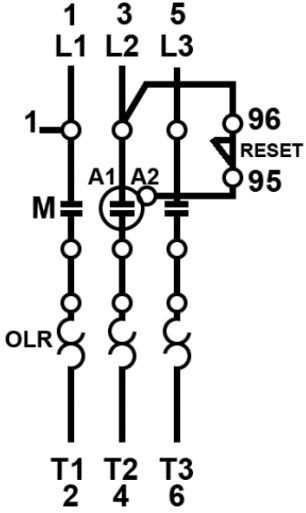
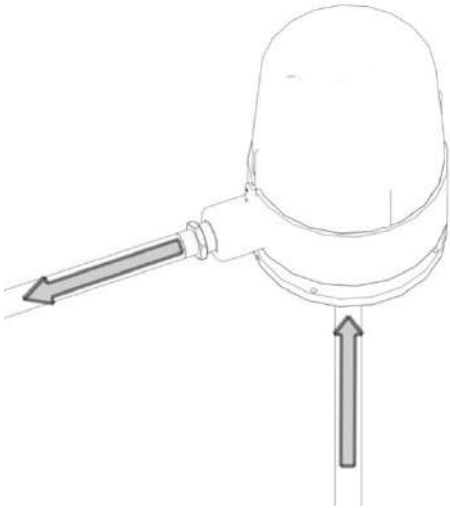
	<p>Route the conduit and wiring from the collector ring assembly across the top of the sweep housing or along the motor cover toward the J-box on the motor.</p> <p>Using the supplied fittings secure the conduit into the j-box on the motor.</p> <p>Secure the conduit using the supplied clamps and self-tapping screws.</p> <p>Final electrical termination will be covered in the electrical section of this manual.</p>
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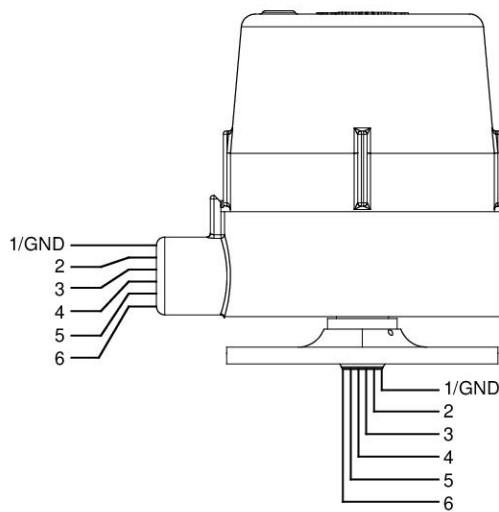
## 4.12 Electrical Installation

Overview – All electrical installation should be done by a certified electrician and should comply with local codes and regulations. Any electrical equipment not provided is the responsibility of the installer.

	<p>Two styles of motor starter panels (Standard &amp; Deluxe) are available to be purchased with the bin sweep.</p> <p>This standard panel offers Start, Stop, and Reset functionality.</p> <p>The panel includes overload adjustment to protect the motor and other components of the sweep.</p>
	<p>Description of switches &amp; lights for the Deluxe motor starter panel.</p> <p><b>Start/Stop &amp; Reset:</b> Start/stop &amp; Reset switch for the paddle sweep.</p> <p><b>Remote/Local:</b> Allows the ability to operate the paddle sweep remotely (i.e. from a control room) or locally (i.e. at the panel box)</p> <p><b>Emergency Stop:</b> Stops the paddle sweep.</p> <p><b>Disconnect switch:</b> Disconnects power to the paddle sweep (LOTO available).</p>



	<p><b>Indicator light (Run-green):</b> Sweep is operating normally.</p> <p><b>Indicator light (Reset-yellow):</b> An overload situation has occurred.</p> <p><b>Indicator light (Power On-red):</b> Electrical power is available to the paddle sweep.</p>
	<p>See wiring diagram for incoming and outgoing wiring terminations.</p> <p>The start, stop, and reset controls are pre-wired in the panel.</p>
	<p>The wiring to the motor will pass through the slip ring to allow rotation without twisting of the wiring.</p>



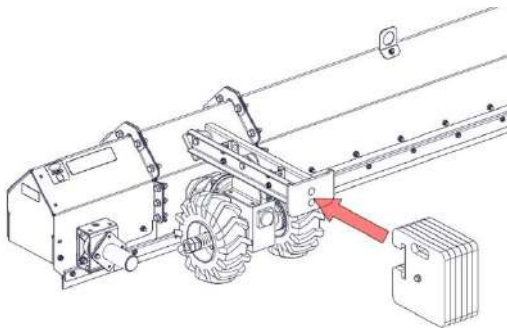
The slip ring is provided as a pre-wired unit with leads out of both sides labeled 1 through 6.

Any of the leads may be used for any motor wires providing that they are matched on each end of the collector ring.

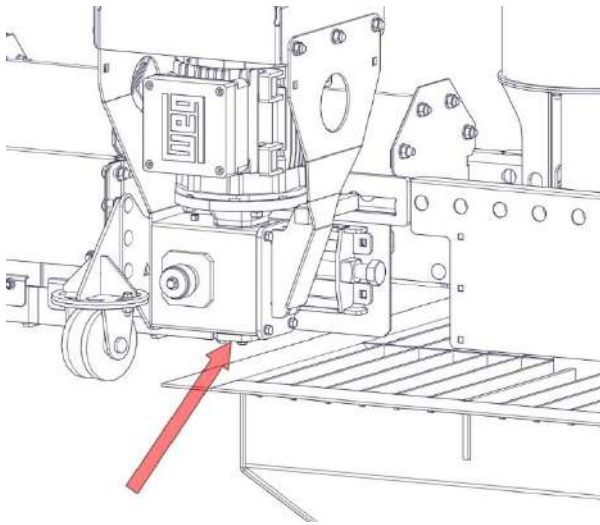
**WARNING:** Do not remove the cap off the slip ring. Each slip ring has an O-ring that needs to be seated properly.

### 4.13 Final Check

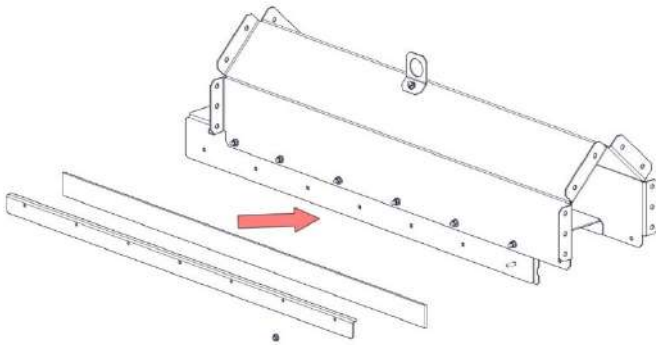
Overview – The final check is to complete installation and ensure the sweep is ready for operation. Checking these items is critical before an initial operation.



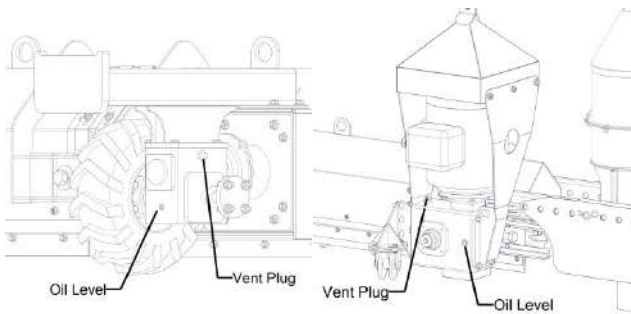
Add the weight kits to each tractor drive. These weights are in place to balance the sweep.



On some gearbox size models the clearance to the floor must be checked. If the gearbox is in contact with the floor or sump frame it will need to be elevated. To do so add shims to the rear caster as needed to raise the gearbox from the floor.



Install the drag rubber on the back side of the sweep such that it lightly contacts the ground.



Ensure that gearbox oil level and vent plug locations have been checked.


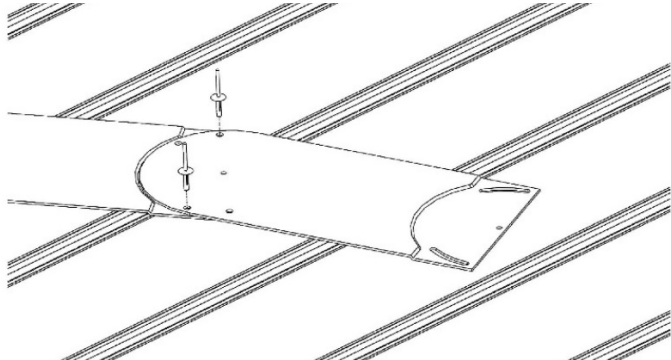
Ensure that all electrical connections are secure, and that boxes and panels are sealed.

#### 4.14 Initial Operation

- Overview – During initial operation in an empty bin, personal will have to be inside of the bin. It is critical that persons stay on the back side of the sweep and do not sit on, walk, stand, or touch the sweep as it is operating.
- READ FIRST - If track paths are being utilized, please refer to the track path section before operating the sweep.
- READ FIRST - If zero entry stand and pads are being utilized, please refer to the zero-entry pad section before operating the sweep.
- The sweep will need to be operated for two complete rotations before being set for burial.
- It is highly recommended that these first two passes be completed in an empty bin.
- If an empty bin is not possible, the grain pile needs to be consistent across the floor and engagement side of the sweep. An uneven grain pile can cause significant damage to the sweep.
- While operating, check for high or low spots in the floor that may cause obstructions and adjust the casters and drag rubber as necessary.
- Also check that the end section of the sweep does not make contact with any obstructions inside the bin such as stiffeners, doors, or ladders.

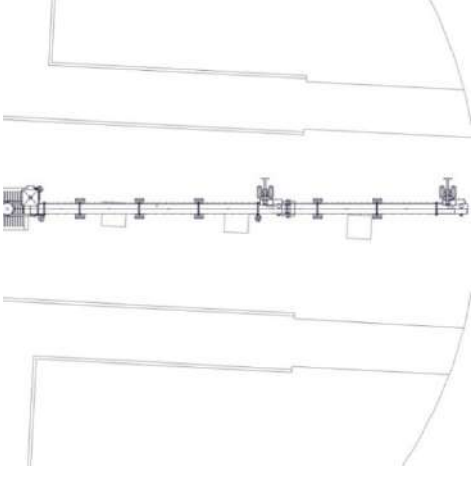
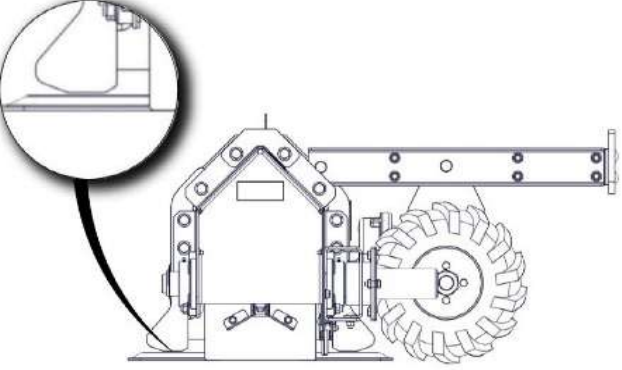
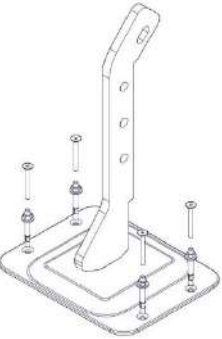
#### 4.15 Track Pathway Installation

Overview –If your floor is a full aeration floor or has aeration tunnels, track pathways are available to protect them from damage from the caster wheels. The track pathways are critical to preventing floor damage when the sweep is operated under load.

	<p>To determine the location of the track pathways it is recommended that the sweep is operated to find the path.</p> <p>While the sweep is operating around an empty bin, follow the caster and mark the floor with paint or a marker.</p>
	<p>After the path is marked you can install the pathways in an overlapping fashion.</p> <p>Anchor the pathways down with the supplied rivets (two rivets per pad).</p> <p>The final pathway may have to be cut to fit properly.</p>

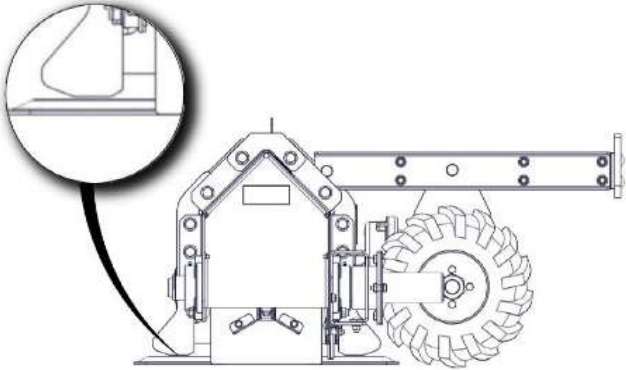
## 4.16 Zero Entry Pad Installation

Overview - Zero Entry pad installation should not occur until after the sweep has made at least one pass around the bin as the locations can change slightly. It is critical that the stands repeatedly land on the pads as not doing so can cause major damage to the sweep when buried.

	<p>After the first pass to check operation is completed the sweep can be stopped in the burial location.</p> <p>The burial location should be such that the sump locations are just in front of the sweep and that none of the zero entry stands are above a sump hole location.</p> <p>Once the sweep is set to this location. Place a zero-entry pad under each stand.</p>
	<p>Using the shims that are provided, elevate the pad so that each one has a 1/8" gap to the stand.</p> <p>If there is not enough room for the pad without a shim then the zero entry stand will need to be cut or ground to provide the 1/8" gap.</p> <p>Center each pad under the stand in the orientation shown and mark the location on the floor.</p>
	<p>While keeping track of each pad and shim location, move the shims to the rear of the sweep.</p> <p>Advance the sweep forward to gain access to all of the pad locations that have been marked.</p> <p>Secure each pad and shim stack to the floor using the provided hardware.</p>

#### 4.17 Setting the sweep for burial

Overview – Once the second pass is nearly complete the sweep can be set for burial. Improperly setting the sweep for burial can cause extensive damage to the sweep which can be very difficult and hazardous to repair when the bin is full of grain.

	<p>If using zero entry stands, advance the sweep until the stands are centered above the zero entry pads.</p> <p>Verify that there is 1/8" clearance between the stand and the pad at each location.</p> <p>Failing to do so may result in major damage to the sweep.</p>
	<p>If the sweep is equipped with an electrical cord to the motor the cord should be placed on the floor behind the sweep and tractor drive wheels.</p> <p>Secure any excess cord so that it can be reached after the bin has been emptied.</p>

## 5 Operation

- **Before Startup**

- The paddle sweeps are not intended to be run if the grain bin has not been filled and drained down. The grain pile must be across the entire front of the sweep.
- Failure to have a constant grain pile across the front of the sweep will result in the sweep bending or breaking at the sections as it tries to wrap around the pile of grain.
- Prior to starting the sweep, the bin must be gravity drained as much as possible.
- All sumps must be opened and grain flow must stop prior to starting the sweep.

- **First Pass**

- After the bin has been gravity drained the sweep should be visible in the grain pile if a man way is able to be opened.
- Once the sweep is started it will begin moving grain to the center sump. The sweep may not appear to advance until enough grain from the pile in front of the sweep is moved.
- While the sweep is running the tractor wheels will be slipping on the floor as the sweep drives into the grain pile. This is normal and is designed to provide constant pressure on the grain pile to ensure the paddles are full.
- Avalanches will occur in the grain and flow over the top of the sweep leaving grain behind the sweep. This is normal on the first pass and why a second pass is recommended to empty the bin.
- During operation the user must ensure that grain is not backing up in the sump and being carried back through the top of the sweep. If the takeaway system does not have enough capacity, the sweep will incur damage from grain backing up.

- **Second pass**

- Because the sweep must remain a set distance from the wall of the bin, a small amount of grain will remain on the outer wall. If desired, this grain can be moved away from the wall before the second pass begins.
- Just before the first pass is completed the sweep can be stopped and grain moved away from the outer wall. Be sure to follow all lock out and bin entry procedures when entering the bin.
- Again, moving this away from the wall is optional and does require entry into the bin.
- The sweep can now be operated for a second pass.
- As with the first pass, the tractor drive wheels will slip on the ground as the sweep pushes into the pile.

- **Additional Sweeping**

- Depending on the level of grain removal desired, additional passes can be run.

- **Burial**

- Refer to the earlier section for the procedure of setting the sweep for burial.

## 6 Preventive Maintenance

- Grease fittings after each use.
  - Head section
    - Take-up bearings
  - Tractor Drive Section
    - Front bearing holder
  - End Section
    - Front bearing holder
    - Rear bearing holder
  - Caster wheels
    - Front and Rear
- Periodically check all bolts for looseness and re-torque if necessary.
  - Section fasteners
  - Set screws
  - Wheel hubs
  - Nuts on ratchet drives (spring compression = 2.0")
  - Split Sprockets (8 tooth – torque (2) ¼"-20 socket head screws to 30ft/lbs)
  - SAE Recommended Torque Settings

	Grade 5				Grade 8			
	Lubricated		Dry		Lubricated		Dry	
Size	N*m	Lb-ft	N*m	Lb-ft	N*m	Lb-ft	N*m	Lb-ft
1/4"	9.5	7	12	9	13.5	10	17	12.5
5/16"	20	15	25	18	28	21	35	26
3/8"	35	26	44	33	50	36	63	46
7/16"	55	41	70	52	80	58	100	75
1/2"	85	63	110	80	120	90	150	115
9/16"	125	90	155	115	175	130	225	160
5/8"	170	125	215	160	215	160	300	225
3/4"	300	225	375	280	425	310	550	400



- Paddle conveyor chain
- Check all external electric wiring or conduit for damage. A licensed electrician is recommended for repairs
- Check drag rubber for damage or adjustment.
- Clean any excess debris off of electric motor.
- Gearbox Oil Level

If low use specified oil listed below or equivalent for proper gearbox. Synthetic lubricant should be change every 6,000 hours of operation or every two years, whichever comes first. Refer to the installation section for level and vent plug location.

Make	Gearbox #	Oil Capacity (oz)	Recommended gear lube
Grove	TXMQ	12.0	Mobile Glygoyle 460 (Part # 688413)
Grove	GR824	24.0	
Grove	GR826	48.0	
Grove	GR830	72.0	
Grove	GR832	92.0	
Grove	GR842	128.0	

- **CAUTION:** Too much oil will cause overheating and too little will result in gear failure. More frequent oil changes are recommended when operating continuously, at high temperatures or under conditions of extreme dirt or dust. Check that vent plug is clear.

- Service Schedule

Service Description	After Initial Use	After 4 Operations or Every Year	After 12 Operations or Every 3 Years
Check oil level in gearboxes	X	X	X
Check Hardware	X	X	X
Visually Inspect Electrical Components	X	X	X
Check Paddle Chain Tension		X	X
Grease Fittings		X	X
Adjust Drag Rubber			X
Clean off excess debris			X
Change oil in gearboxes			X

## 7 Troubleshooting

1. Motor starter trips or needs to be reset	Overloading take away system – Need to slow down the paddle sweep
2. Electric motor has high amp draw	Overloading take away system – Need to slow down the paddle sweep
3. Electric motor is hot	Drawing too many amps. If equipped with VFD, ensure VFD is not running below 30hertz.
4. Overheating gearbox	Overloading take away system – Need to slow down the paddle sweep or check that vent plug is installed and open
5. Farm sweep is over running the sump	A different sprocket combination in needed to slow the sweep down.
6. Sweep is too long or short or contacts bin/silo wall.	Adjust the sweep at the head section. The sweep is a modular unit consisting of intermediate sections in lengths of 6", 1', 3' or 5'. 6" and 1' extension kits are also available
7. Damage to head section, head shaft or motor torque arm	Sump may be too large for standard head section. Rear caster wheel is not attached to motor gearbox for added support
8. Damage to head section	Are take-up bearings tighten evenly
9. Breaking tail or head shafts	Chain tension is too tight. See chain tensioning section.
10. Paddle chain will not turn	Missing sprocket, missing keyway, motor/gearbox is not engaged on head shaft.
11. Tractor drive is not turning	Missing sprocket that cogs with paddle chain. Roller chain is loose or disconnected.
12. Sweep acts like it wants to "climb" the pile.	Center pivot/collector ring is mounted too high.
13. Sweep leave indentations or "tracks" on aeration panels or floor	Bin/Silo needs track pathways installed to the floor or areas with indentations.
14. After burial sweep has pushed through an aeration floor.	Additional floor supports are needed under load points of sweep during burial.
15. Bin/Silo has only single phase power	A VFD or phase converter will need to be utilized.
16. Jack failed	Jack is to be set, so that it just touches the floor. Do not jack sweep up into air, as the caster and tractor drive wheels need to be touching the floor.
17. Steel caster wheel is cutting or marking the floor.	Ensure the front and rear casters are in the appropriate position on the sweep. Also ensure the adjustment of the wheel is turned to the radius of its path.
18. Front caster wheel falls into sump opening.	Move caster wheel to a different flange mount either inward or outward.
19. Gearbox is low on oil	See maintenance section for proper level and oil.
20. Conveyor/paddle chain do not clog correctly over sprocket on driving pivot sections	Loosen paddle chain tension.

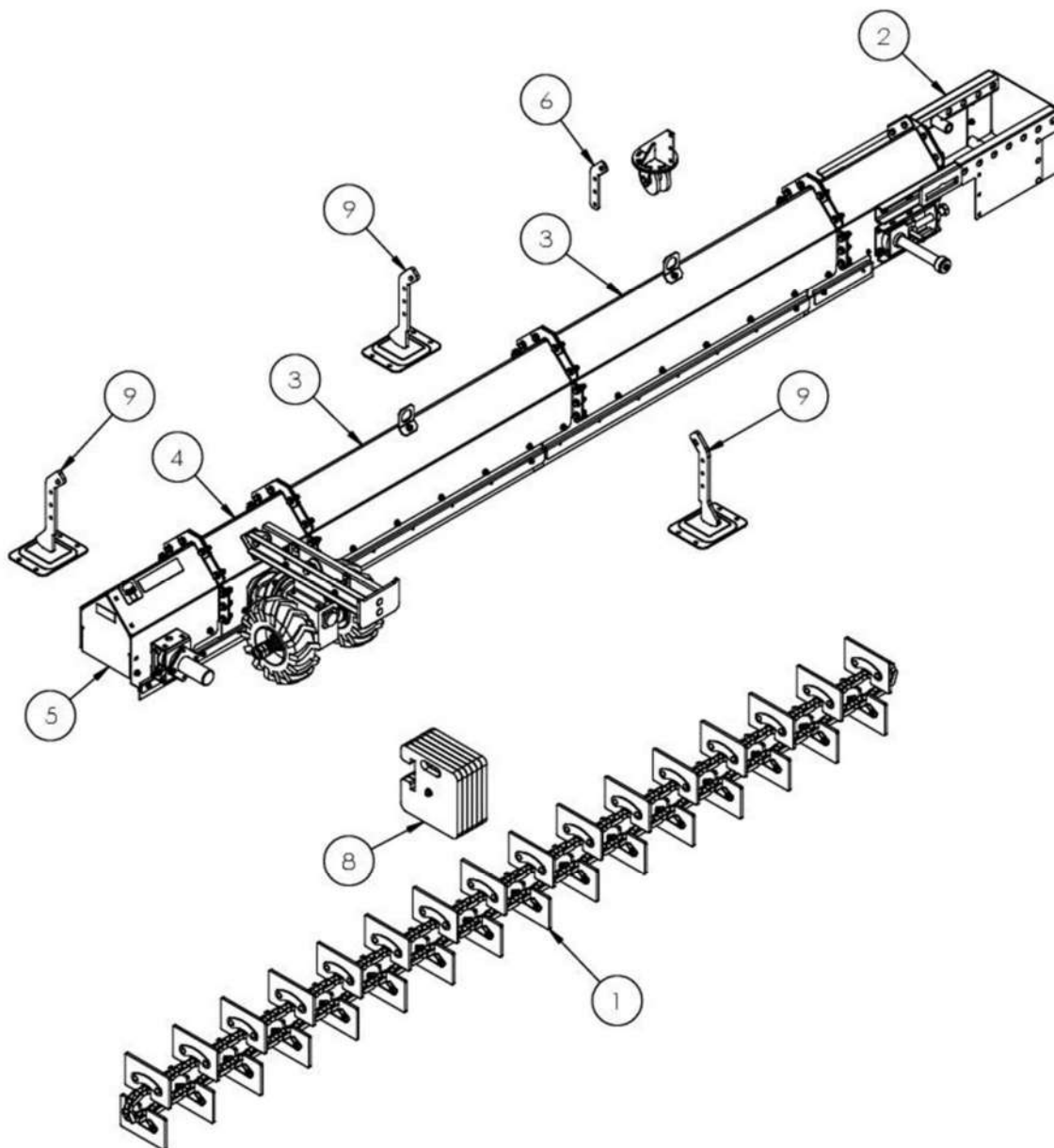
# 8

## Parts Lists and Diagrams

## PARTS DIAGRAM & LIST

### 14' 6" SWEEP FOR 30' BIN/STANDARD

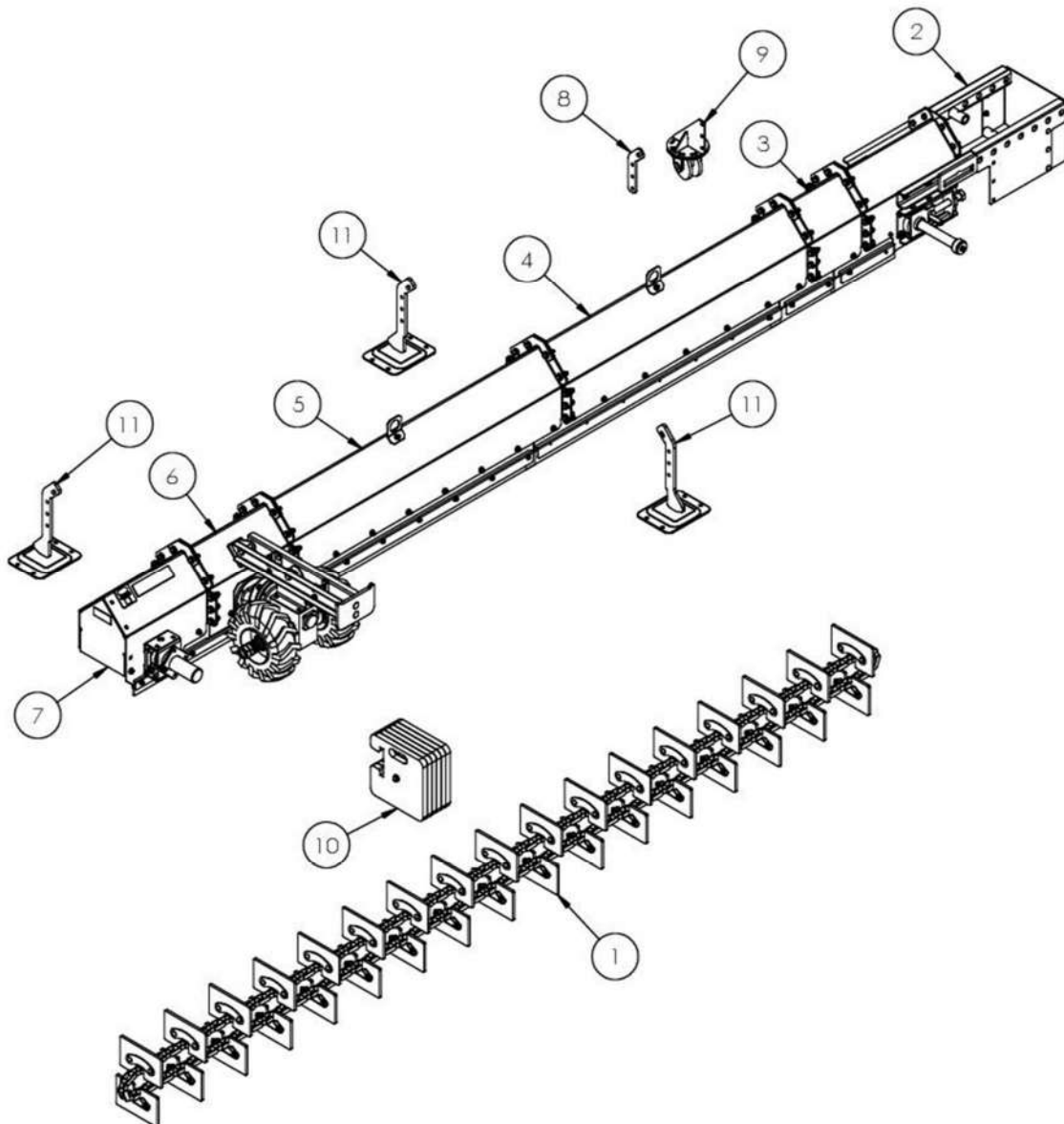
ITEM	PART #	DESCRIPTION	QTY.
1	686162	PADDLE CHAIN	1
2	709563	HEAD SECTION	1
3	709900	INTERMEDIATE SECTION-4'-6"	2
4	709870	DRIVE SECTION-40:1	1
5	709885	END SECTION	1
6	709648	FLANGE REINFORCEMENT PLATE	1
7	702692	ROLLER WHEEL	1
8	686268	WEIGHT KIT	1
9	709569	ZERO ENTRY SUPPORT KIT	3
NA	709570	HARDWARE BAG-SECTION	4



## PARTS DIAGRAM & LIST

### 16' SWEEP FOR 33' BIN/STANDARD

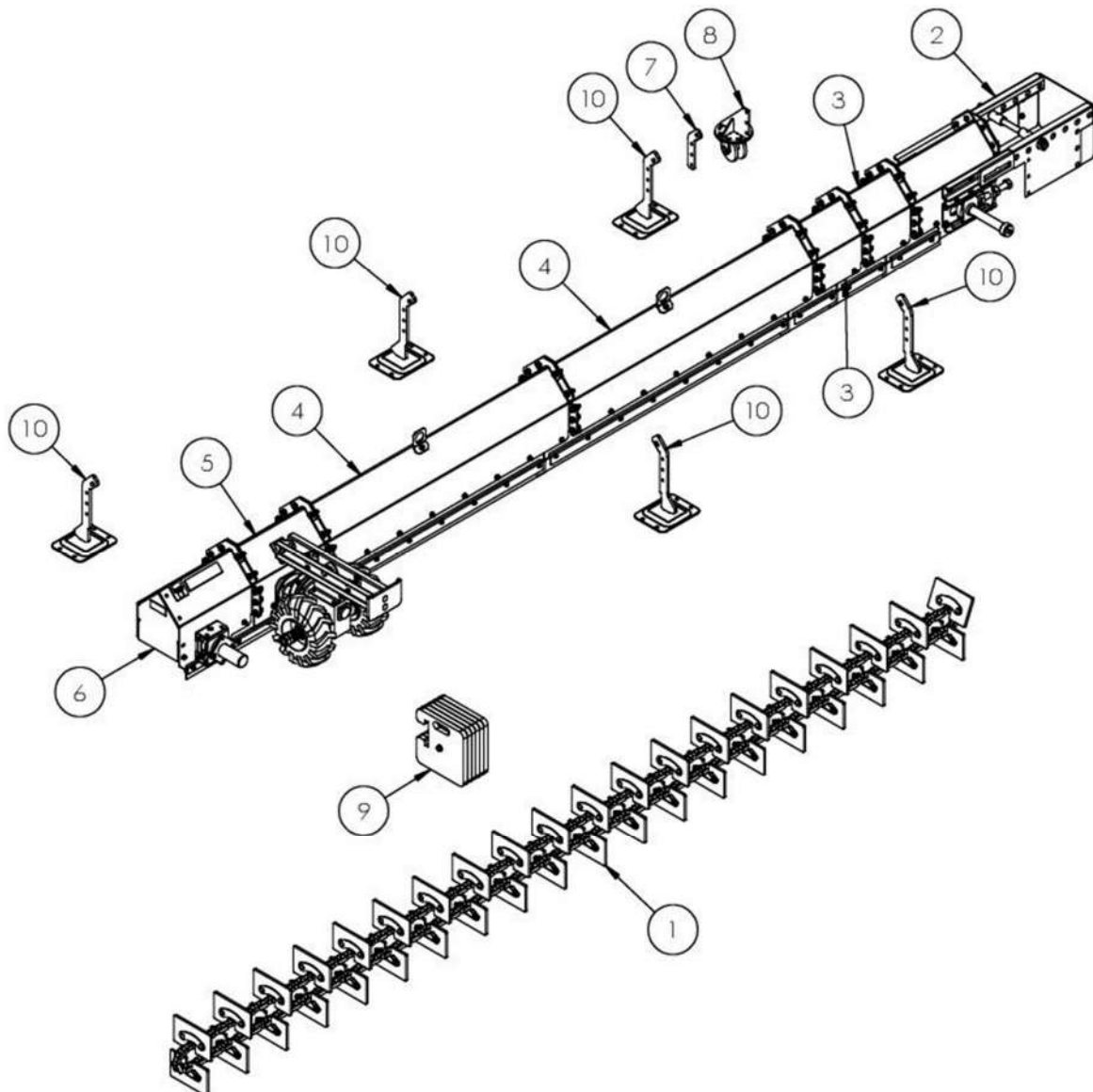
ITEM	PART #	DESCRIPTION	QTY.
1	687935	PADDLE CHAIN	1
2	709563	HEAD SECTION	1
3	709564	INTERMEDIATE SECTION-1'	1
4	709900	INTERMEDIATE SECTION-4'-6"	1
5	709566	INTERMEDIATE SECTION-5'	1
6	709870	DRIVE SECTION-40:1	1
7	709885	END SECTION	1
8	709648	FLANGE REINFORCEMENT PLATE	1
9	702692	ROLLER WHEEL	1
10	686268	WEIGHT KIT	1
11	709569	ZERO ENTRY SUPPORT KIT	3
NA	709570	HARDWARE BAG-SECTION	5



## PARTS DIAGRAM & LIST

### 17' 6" SWEEP FOR 36' BIN/STANDARD

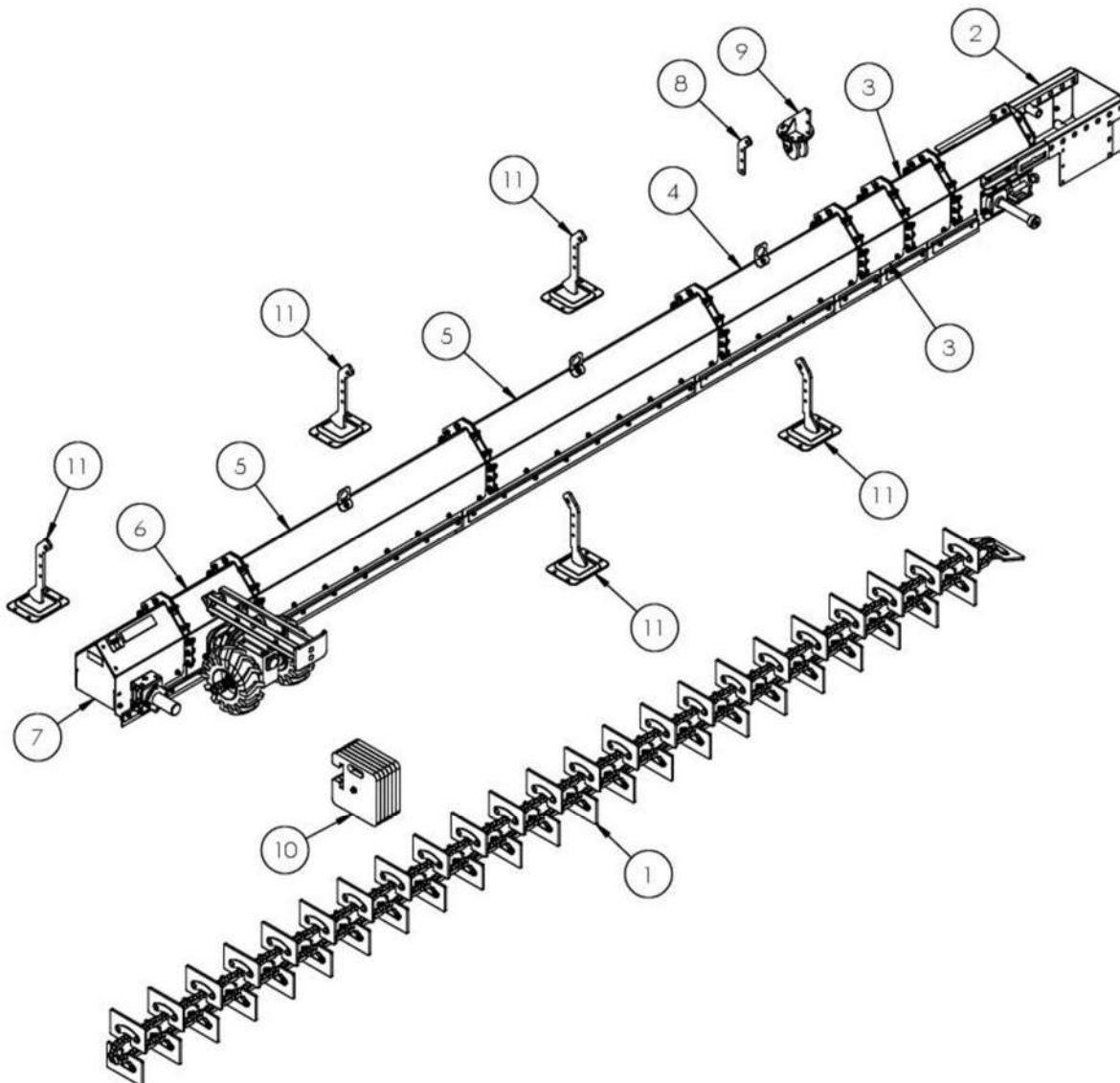
ITEM	PART #	DESCRIPTION	QTY.
1	686220	PADDLE CHAIN	1
2	709563	HEAD SECTION	1
3	709564	INTERMEDIATE SECTION-1'	2
4	709566	INTERMEDIATE SECTION-5'	2
5	709870	DRIVE SECTION-40:1	1
6	709885	END SECTION	1
7	709648	FLANGE REINFORCEMENT PLATE	1
8	702692	ROLLER WHEEL	1
9	686268	WEIGHT KIT	1
10	709569	ZERO ENTRY SUPPORT KIT	5
NA	709570	HARDWARE BAG-SECTION	6



## PARTS DIAGRAM & LIST

### 20' 6" SWEEP FOR 42' BIN/STANDARD

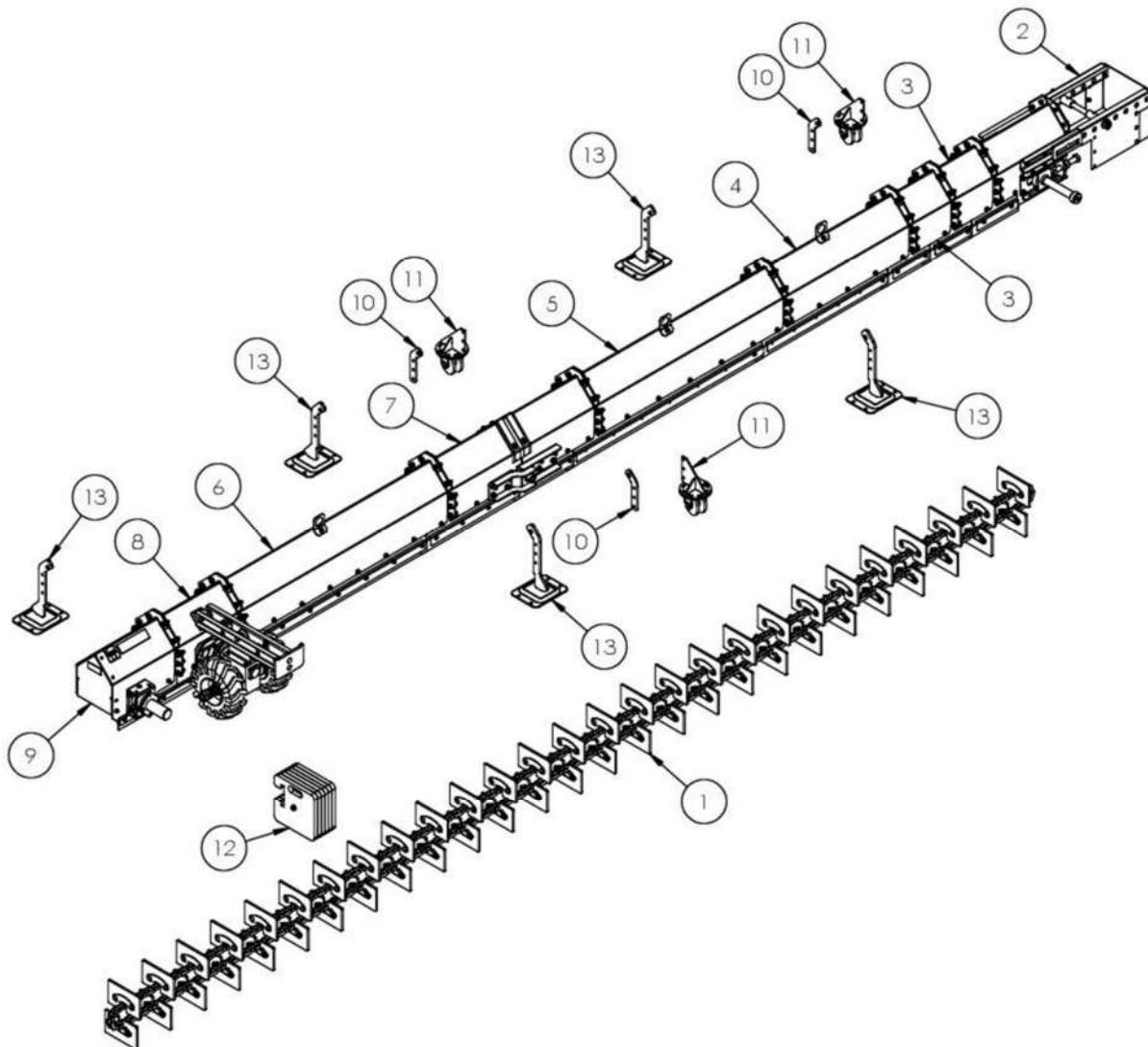
ITEM	PART #	DESCRIPTION	QTY.
1	686222	PADDLE CHAIN	1
2	709563	HEAD SECTION	1
3	709564	INTERMEDIATE SECTION-1'	2
4	709565	INTERMEDIATE SECTION-3'	1
5	709566	INTERMEIDATE SECTION-5'	2
6	709870	DRIVE SECTION-40:1	1
7	709885	END SECTION	1
8	709648	FLANGE REINFORCEMENT PLATE	1
9	702692	ROLLER WHEEL	1
10	686268	WEIGHT KIT	1
11	709569	ZERO ENTRY SUPPORT KIT	5
NA	709570	HARDWARE BAG-SECTION	7



## PARTS DIAGRAM & LIST

### 23' 6" SWEEPFOR 48' BIN/STANDARD

ITEM	PART #	DESCRIPTION	QTY.
1	686088	PADDLE CHAIN	1
2	709563	HEAD SECTION	1
3	709564	INTERMEDIATE SECTION-1'	2
4	709565	INTERMEDIATE SECTION-3'	1
5	709900	INTERMEDIATE SECTION-4'-6"	1
6	709566	INTERMEDIATE SECTION-5'	1
7	709571	PIVOT SECTION	1
8	709870	DRIVE SECTION-40:1	1
9	709885	END SECTION	1
10	709648	FLANGE REINFORCEMENT PLATE	3
11	702692	ROLLER WHEEL	3
12	686268	WEIGHT KIT	1
13	709569	ZERO ENTRY SUPPORT KIT	5
NA	709570	HARDWARE BAG-SECTION	8

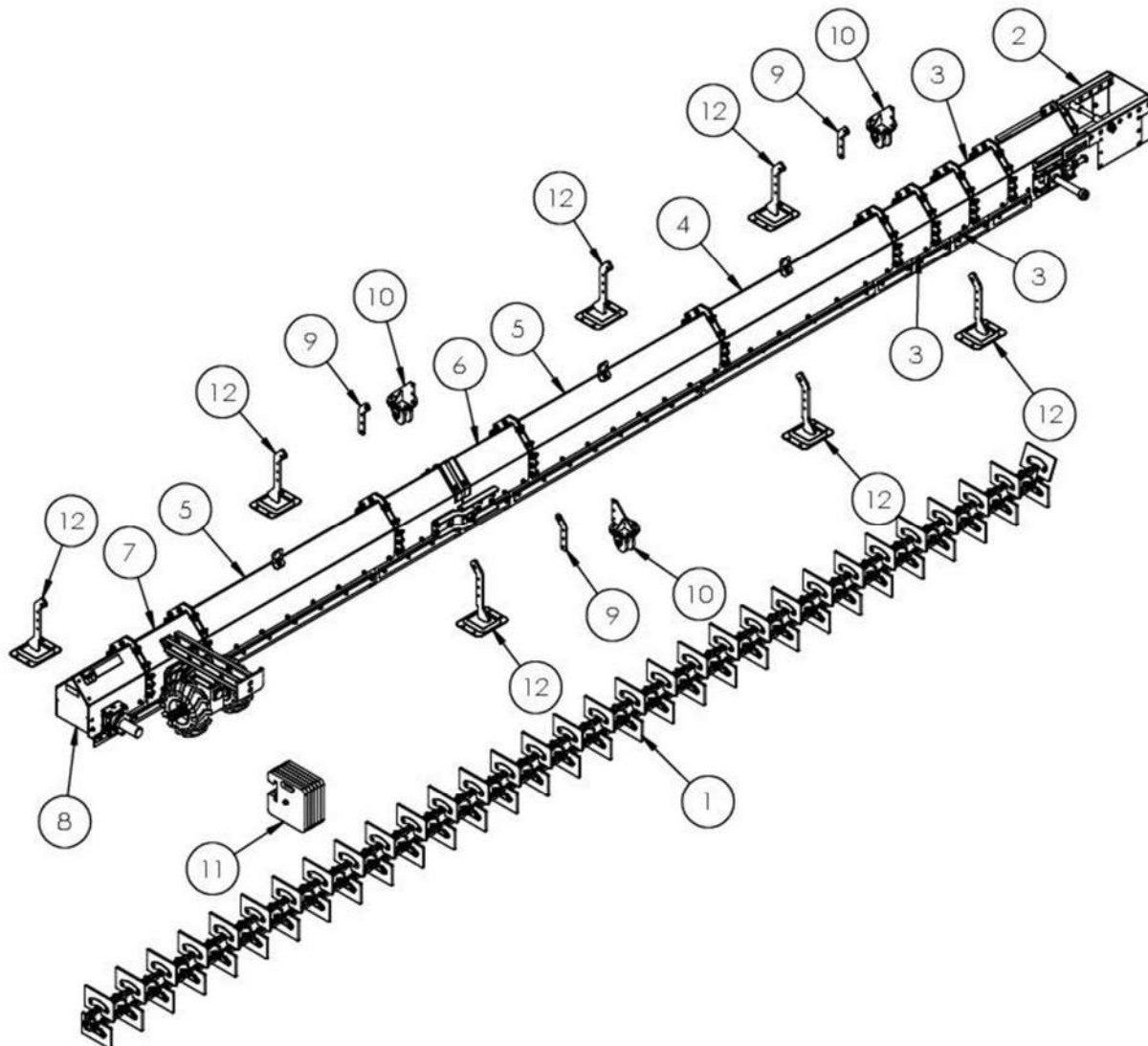




## PARTS DIAGRAM & LIST

### 26' 6" SWEEP FOR 54' BIN/STANDARD

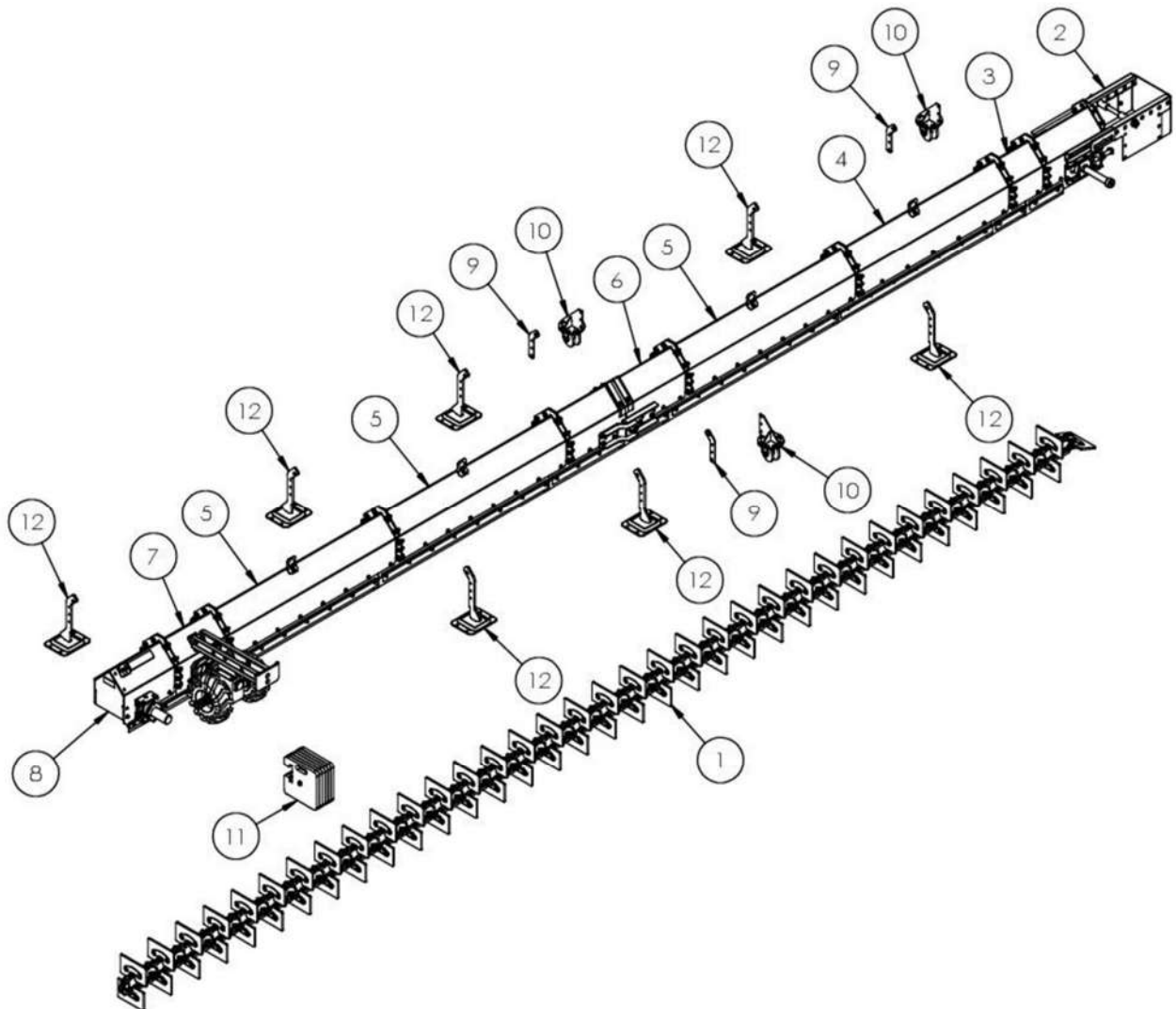
ITEM	PART #	DESCRIPTION	QTY.
1	685900	PADDLE CHAIN	1
2	709563	HEAD SECTION	1
3	709564	INTERMEDIATE SECTION-1'	3
4	709900	INTERMEDIATE SECTION-4'-6"	1
5	709566	INTERMEDIATE SECTION-5'	2
6	709571	PIVOT SECTION	1
7	709870	DRIVE SECTION-40:1	1
8	709885	END SECTION	1
9	709648	FLANGE REINFORCEMENT PLATE	3
10	702692	ROLLER WHEEL	3
11	686268	WEIGHT KIT	1
12	709569	ZERO ENTRY SUPPORT KIT	7
NA	709570	HARDWARE BAG-SECTION	9



## PARTS DIAGRAM & LIST

### 29' 6" SWEEP FOR 60' BIN W/STANDARD HEAD SECTION

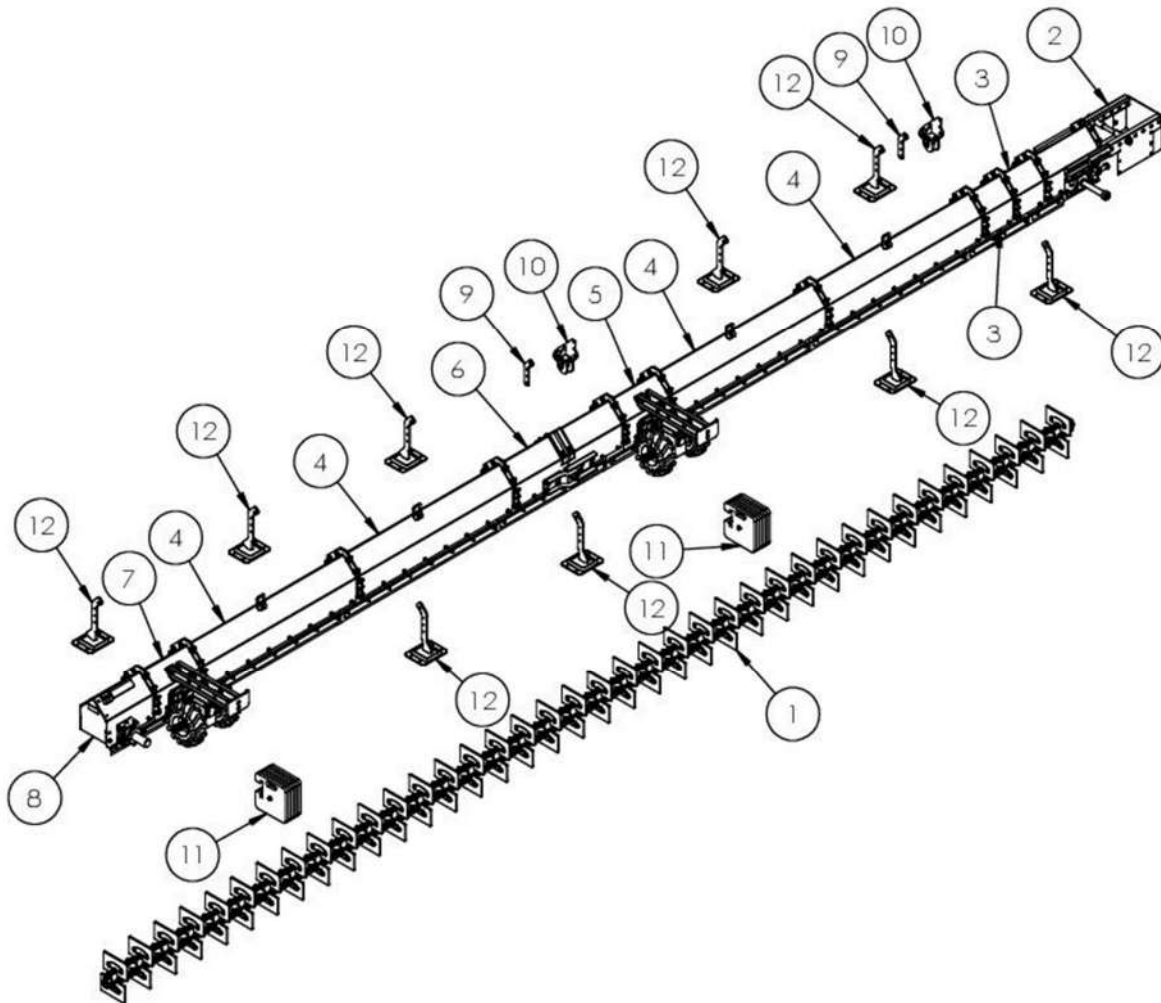
ITEM	PART #	DESCRIPTION	QTY.
1	686156	PADDLE CHAIN	1
2	709563	HEAD SECTION	1
3	709564	INTERMEDIATE SECTION-1'	1
4	709900	INTERMEDIATE SECTION-4'-6"	1
5	709566	INTERMEDIATE SECTION-5'	3
6	709571	PIVOT SECTION	1
7	709870	DRIVE SECTION-40:1	1
8	709885	END SECTION	1
9	709648	FLANGE REINFORCEMENT PLATE	3
10	702692	ROLLER WHEEL	3
11	686268	WEIGHT KIT	1
12	709569	ZERO ENTRY SUPPORT KIT	7
NA	709570	HARDWARE BAG-SECTION	8



## PARTS DIAGRAM & LIST

### 32' 6" SWEEP FOR 66' BIN/STANDARD

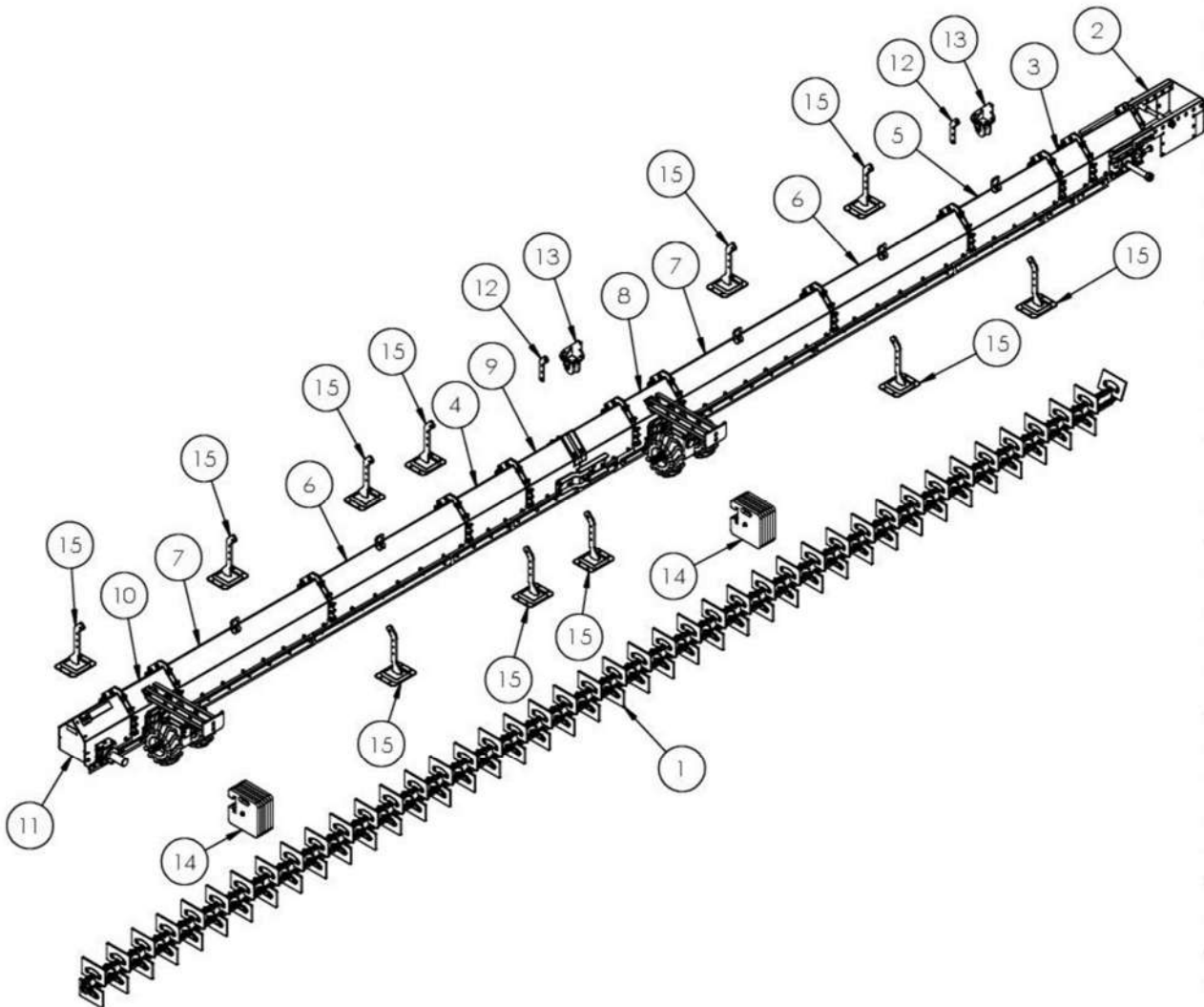
ITEM	PART #	DESCRIPTION	QTY.
1	685902	PADDLE CHAIN	1
2	709563	HEAD SECTION	1
3	709564	INTERMEDIATE SECTION-1'	2
4	709566	INTERMEDIATE SECTION-5'	4
5	709880	DRIVE SECTION-60:1	1
6	709571	PIVOT SECTION	1
7	709865	DRIVE SECTION-30:1	1
8	709885	END SECTION	1
9	709648	FLANGE REINFORCEMENT PLATE	2
10	702692	ROLLER WHEEL	2
11	686268	WEIGHT KIT	2
12	709569	ZERO ENTRY SUPPORT KIT	9
NA	709570	HARDWARE BAG-SECTION	10



## PARTS DIAGRAM & LIST

### 35' 6" SWEEP FOR 72' BIN/STANDARD

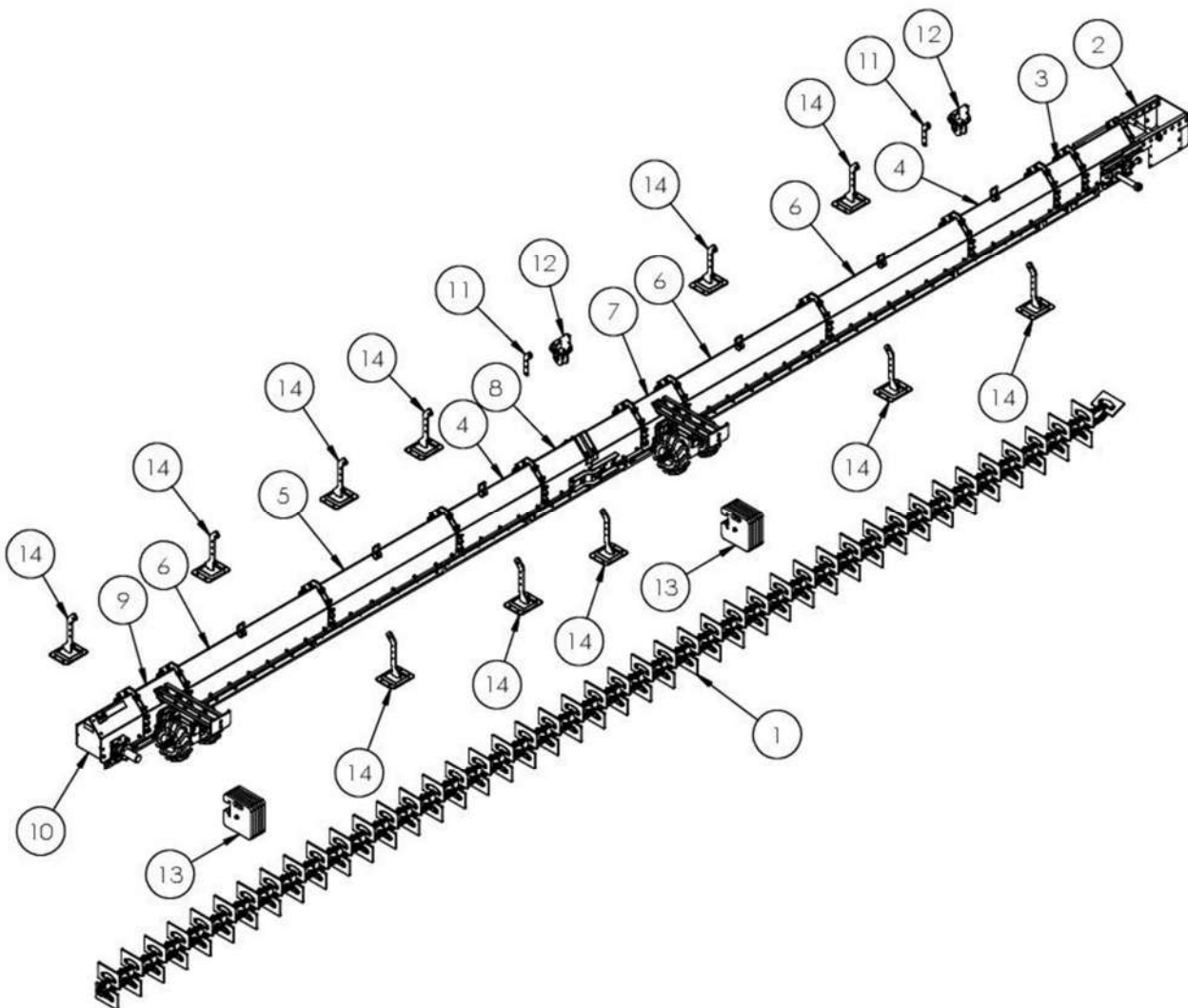
ITEM	PART #	DESCRIPTION	QTY.
1	709917	PADDLE CHAIN	1
2	709563	HEAD SECTION	1
3	709564	INTERMEDIATE SECTION-1'	1
4	709900	INTERMEDIATE SECTION-2'	1
5	709565	INTERMEDIATE SECTION-3'	1
6	709900	INTERMEDIATE SECTION-4'-6"	2
7	709566	INTERMEDIATE SECTION-5'	2
8	709880	DRIVE SECTION-60:1	1
9	709571	PIVOT SECTION	1
10	709865	DRIVE SECTION-30:1	1
11	709885	END SECTION	1
12	709648	FLANGE REINFORCEMENT PLATE	2
13	702692	ROLLER WHEEL	2
14	686268	WEIGHT KIT	2
15	709569	ZERO ENTRY SUPPORT KIT	11
NA	709570	HARDWARE BAG-SECTION	11



## PARTS DIAGRAM & LIST

### 37' SWEEP FOR 75' BIN/STANDARD

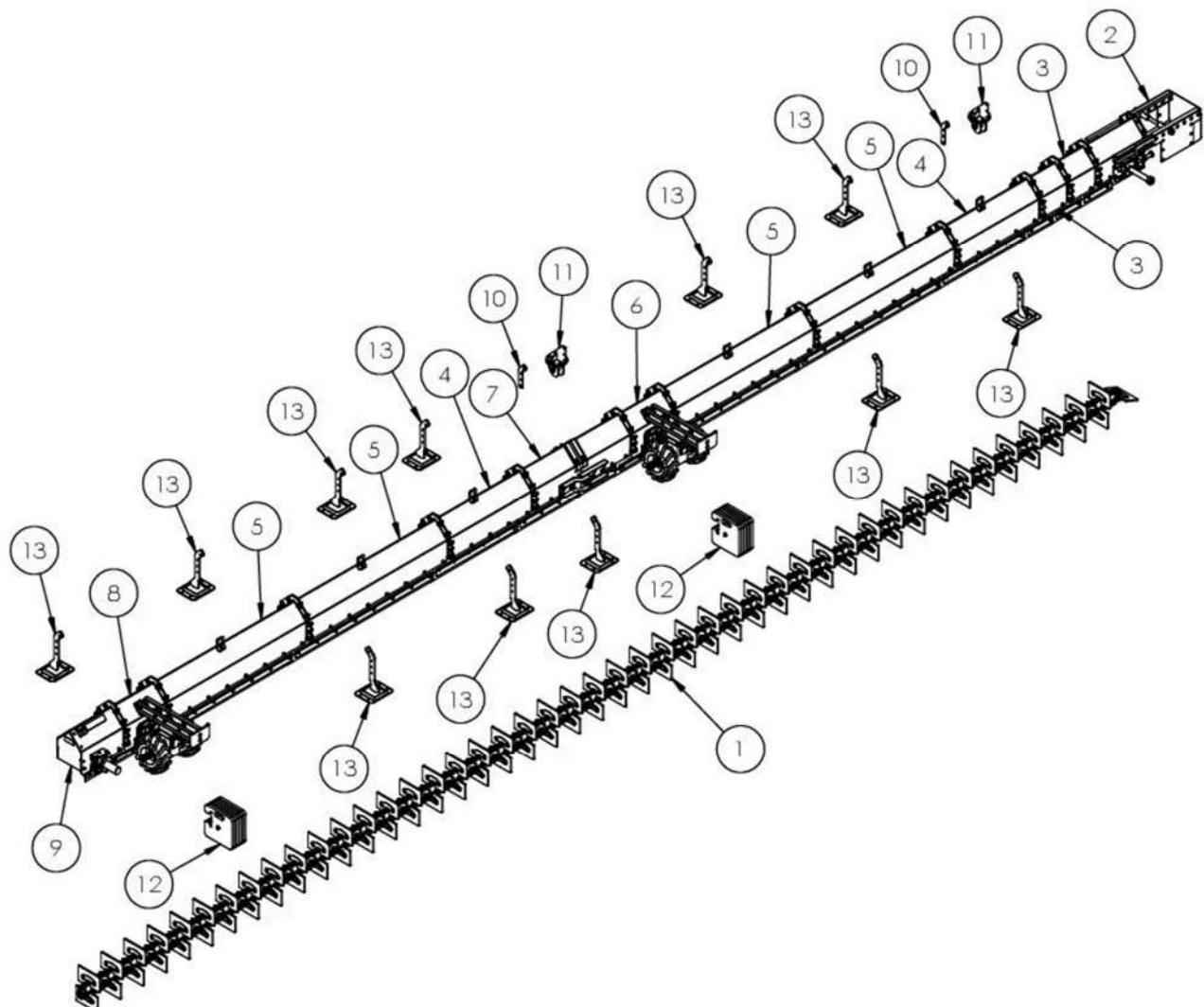
ITEM	PART #	DESCRIPTION	QTY.
1	709919	PADDLE CHAIN	1
2	709563	HEAD SECTION	1
3	709564	INTERMEDIATE SECTION-1'	1
4	709565	INTERMEDIATE SECTION-3'	2
5	709900	INTERMEDIATE SECTION-4'-6"	1
6	709566	INTERMEDIATE SECTION-5'	3
7	709880	DRIVE SECTION-60:1	1
8	709571	PIVOT SECTION	1
9	709865	DRIVE SECTION-30:1	1
10	709885	END SECTION	1
11	709648	FLANGE REINFORCEMENT PLATE	2
12	702692	ROLLER WHEEL	2
13	686268	WEIGHT KIT	2
14	709569	ZERO ENTRY SUPPORT KIT	11
NA	709570	HARDWARE BAG-SECTION	11



## PARTS DIAGRAM & LIST

### 38' 6" SWEEP FOR 78' BIN/STANDARD

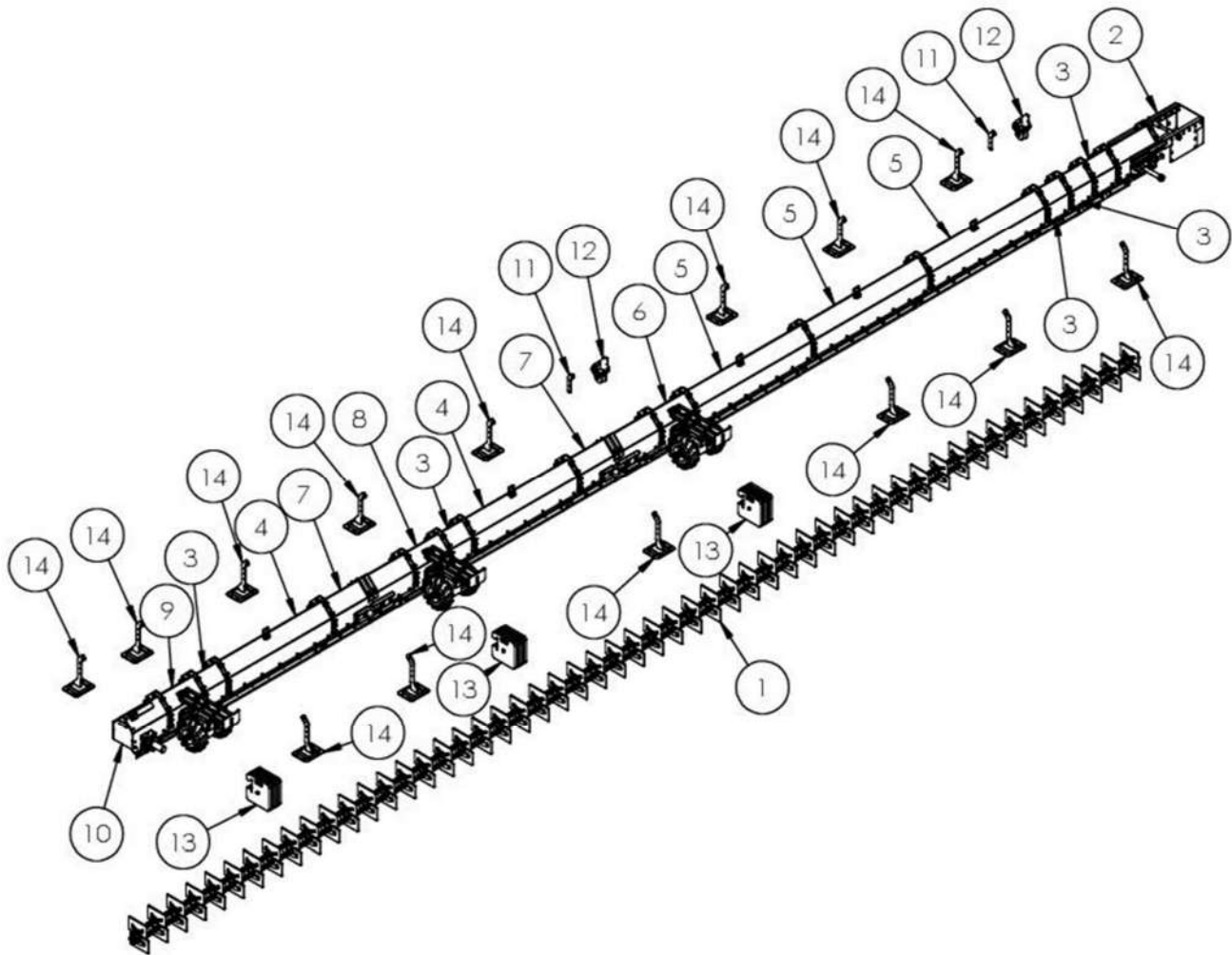
ITEM	PART #	DESCRIPTION	QTY.
1	686320	PADDLE CHAIN	1
2	709563	HEAD SECTION-STANDARD	1
3	709564	SECTION-1'	2
4	709565	SECTION-3'	2
5	709566	SECTION-5'	4
6	709880	DRIVE SECTION-60:1	1
7	709571	PIVOT SECTION	1
8	709865	DRIVE SECTION-30:1	1
9	709885	END SECTION	1
10	709648	FLANGE REINFORCEMENT PLATE	2
11	702692	ROLLER WHEEL	2
12	686268	WEIGHT KIT	2
13	709569	ZERO ENTRY SUPPORT KIT	11
NA	709570	HARDWARE BAG-SECTION	12



## PARTS DIAGRAM & LIST

### 44' 6" SWEEP FOR 90' BIN/STANDARD

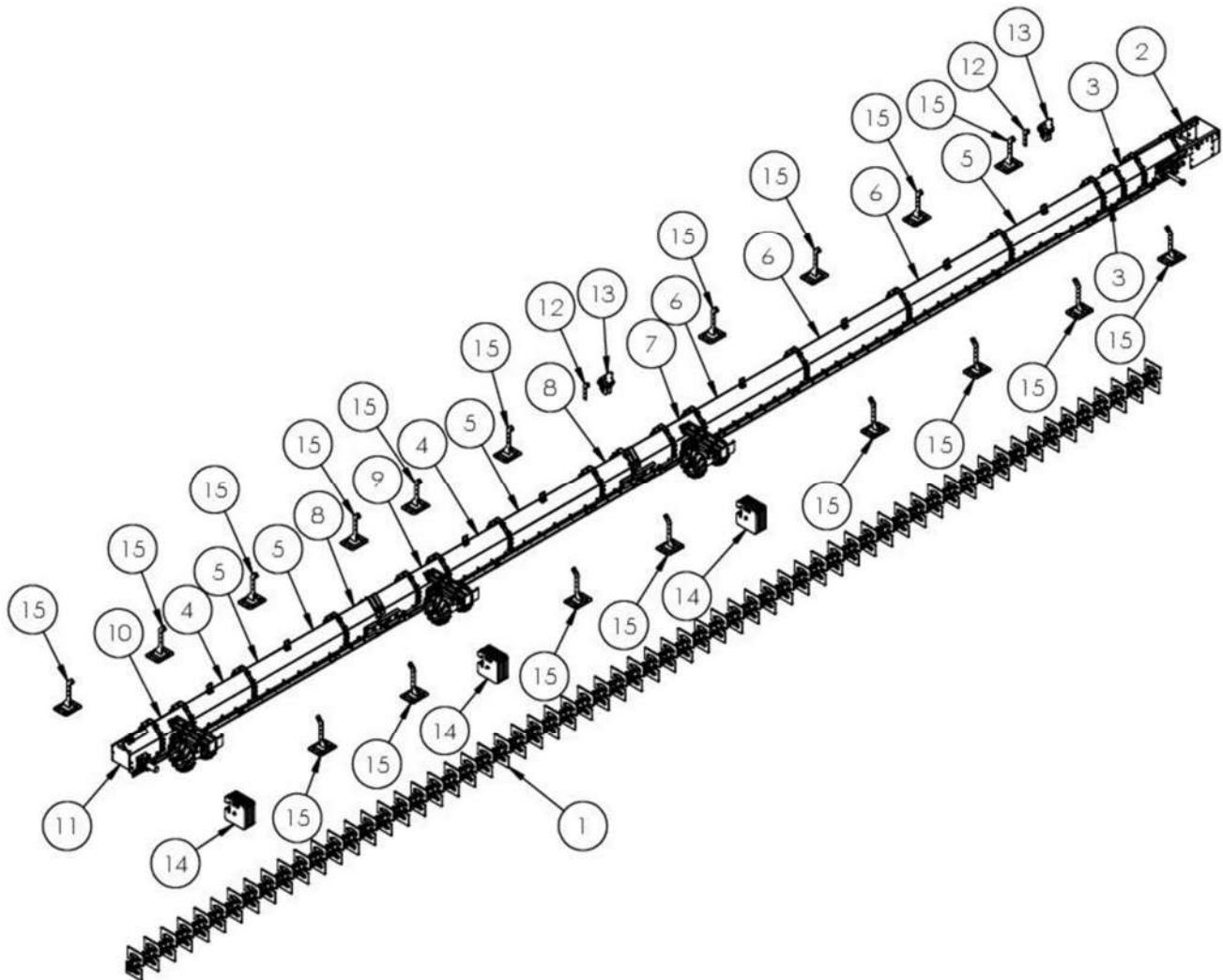
ITEM	PART #	DESCRIPTION	QTY.
1	686224	PADDLE CHAIN	1
2	709563	HEAD SECTION	1
3	709564	INTERMEDIATE SECTION-1'	5
4	709900	INTERMEDIATE SECTION-4'-6"	2
5	709566	INTERMEDIATE SECTION-5'	3
6	709880	DRIVE SECTION-60:1	1
7	709571	PIVOT SECTION	2
8	709870	DRIVE SECTION-40:1	1
9	709865	DRIVE SECTION-30:1	1
10	709885	END SECTION	1
11	709648	FLANGE REINFORCEMENT PLATE	2
12	702692	ROLLER WHEEL	2
13	686268	WEIGHT KIT	3
14	709569	ZERO ENTRY SUPPORT KIT	14
NA	709570	HARDWARE BAG-INTERMEDIATE SECTION	16



## PARTS DIAGRAM & LIST

### 52' SWEEP FOR 105' BIN/STANDARD

ITEM	PART #	DESCRIPTION	QTY.
1	709922	PADDLE CHAIN	1
2	709563	HEAD SECTION	1
3	709564	INTERMEDIATE SECTION-1'	2
4	709565	INTERMEDIATE SECTION-3'	2
5	709900	INTERMEDIATE SECTION-4'-6"	3
6	709566	INTERMEDIATE SECTION-5'	3
7	709880	DRIVE SECTION-60:1	1
8	709571	PIVOT SECTION	2
9	709870	DRIVE SECTION-40:1	1
10	709865	DRIVE SECTION-30:1	1
11	709885	END SECTION	1
12	709648	FLANGE REINFORCEMENT PLATE	2
13	702692	ROLLER WHEEL	2
14	686268	WEIGHT KIT	3
15	709569	ZERO ENTRY SUPPORT KIT	18
NA	709570	HARDWARE BAG-INTERMEDIATE SECTION	17

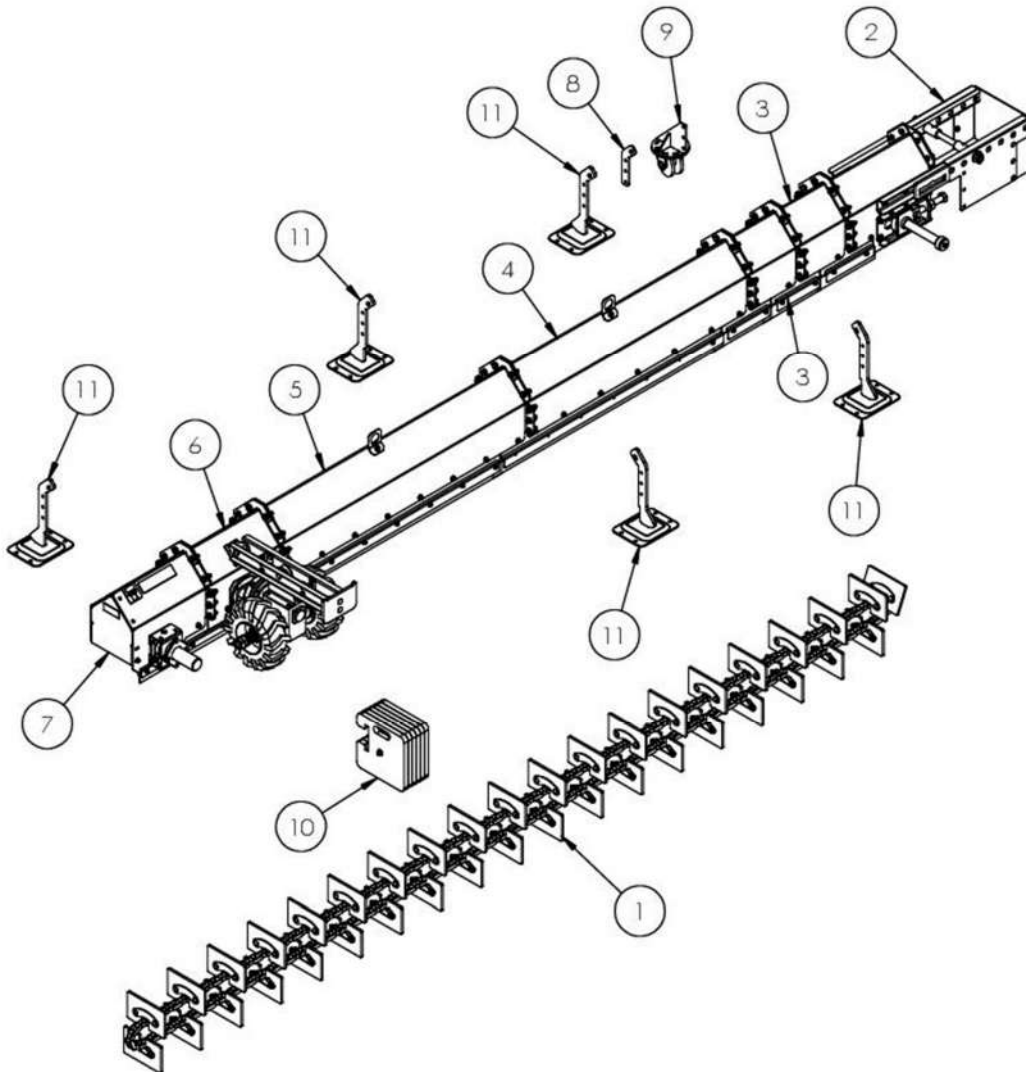




## PARTS DIAGRAM & LIST

### 17' 6" SWEEP FOR 36' BIN/HIGH FLOW

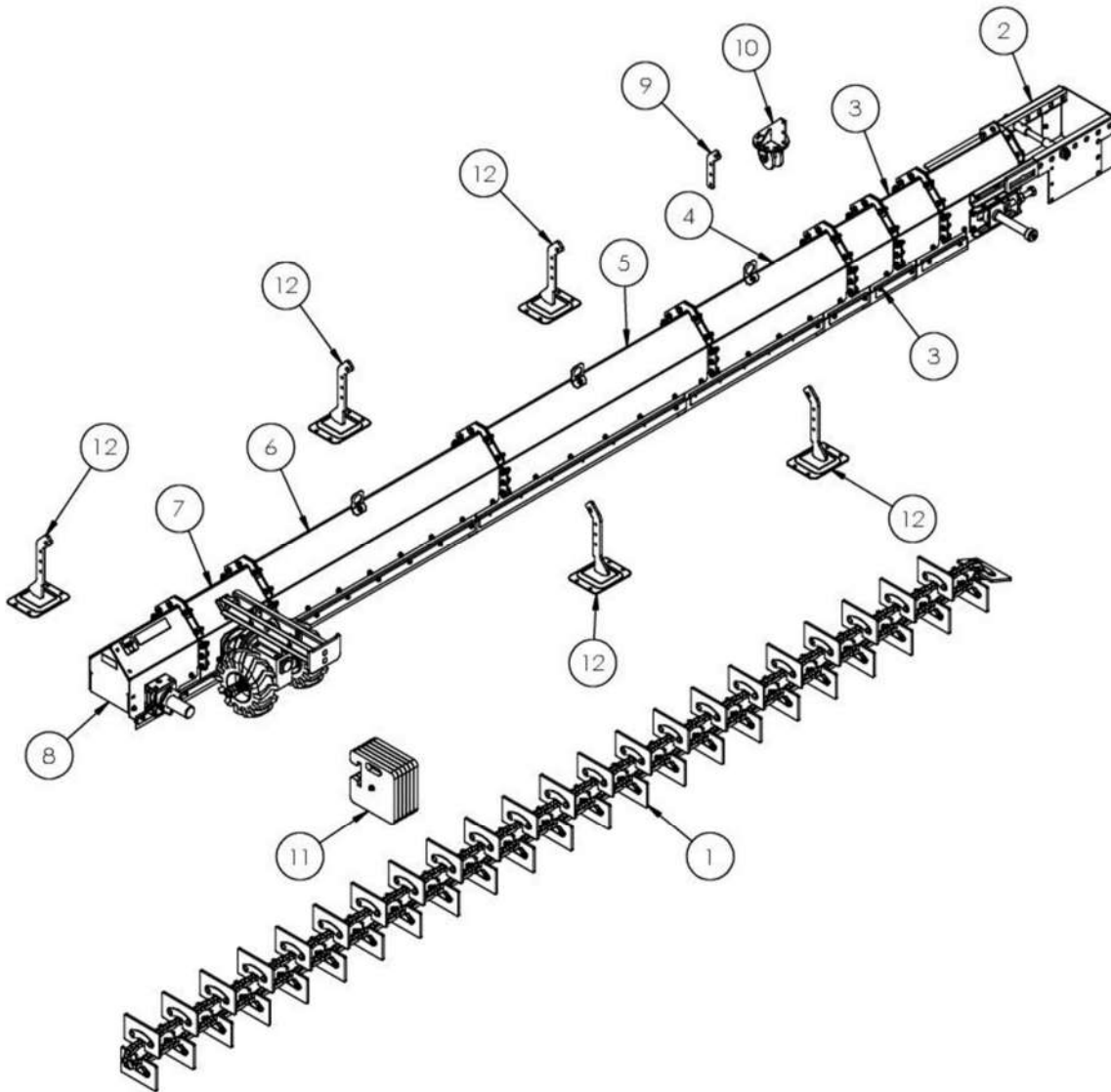
ITEM	PART #	DESCRIPTION	QTY.
1	709908	PADDLE CHAIN	1
2	709563	HEAD SECTION	1
3	709564	INTERMEDIATE SECTION-1'	2
4	709900	INTERMEDIATE SECTION-4'-6"	1
5	709566	INTERMEDIATE SECTION-5'	1
6	709870	DRIVE SECTION-40:1	1
7	709855	END SECTION	1
8	709648	FLANGE REINFORCEMENT PLATE	1
9	702692	ROLLER WHEEL	1
10	686268	WEIGHT KIT	1
11	709569	ZERO ENTRY SUPPORT KIT	5
NA	709570	HARDWARE BAG-INTERMEDIATE SECTION	6



## PARTS DIAGRAM & LIST

### 20' 6" SWEEP FOR 42' BIN/HIGH FLOW

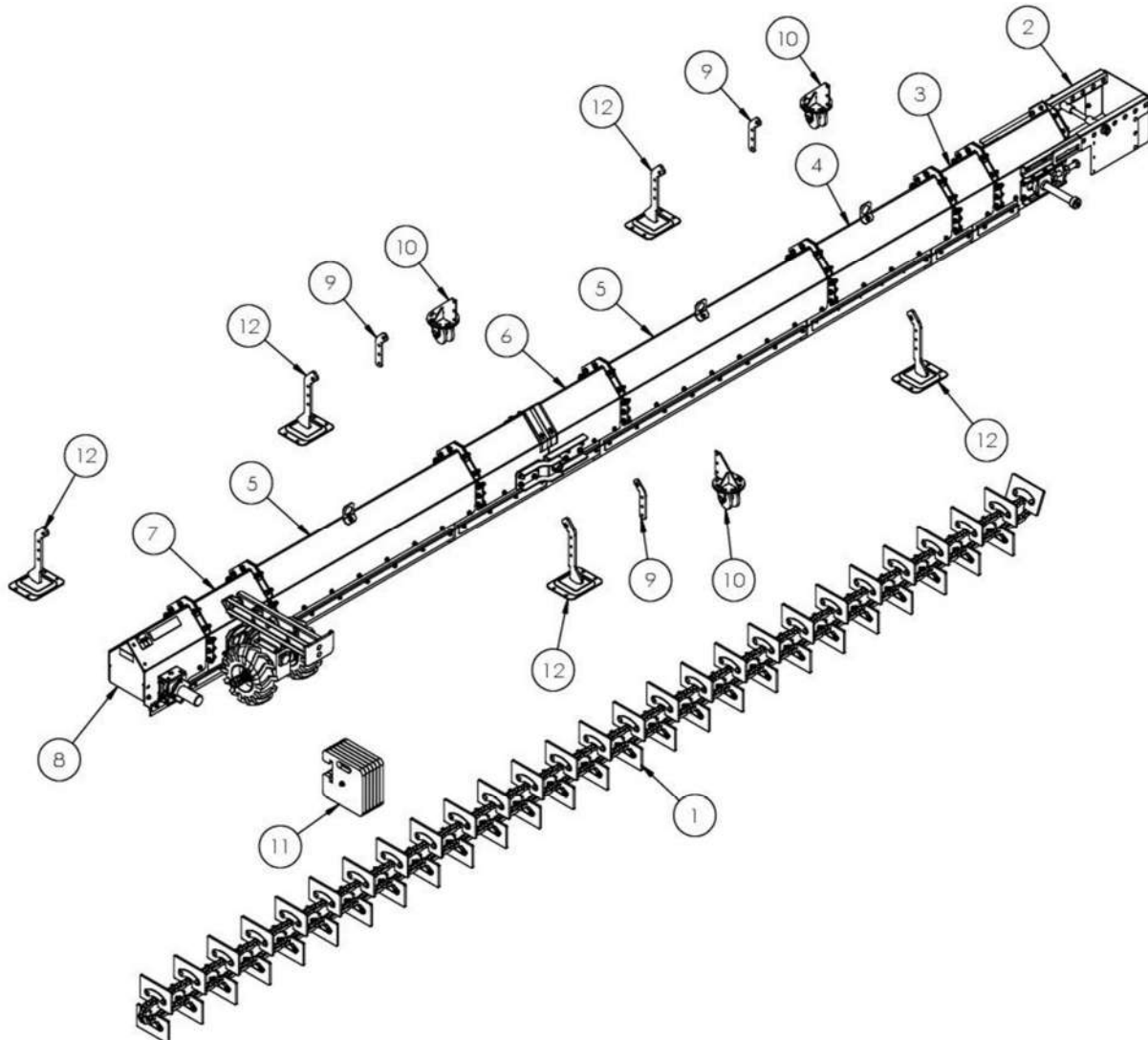
ITEM	PART #	DESCRIPTION	QTY.
1	709909	PADDLE CHAIN	1
2	709563	HEAD SECTION	1
3	709564	INTERMEDIATE SECTION-1'	2
4	709565	INTERMEDIATE SECTION-3'	1
5	709900	INTERMEDIATE SECTION-4'-6"	1
6	709566	INTERMEDIATE SECTION-5'	1
7	709870	DRIVE SECTION-40:1	1
8	709855	END SECTION	1
9	709648	FLANGE REINFORCEMENT PLATE	1
10	702692	ROLLER WHEEL	1
11	686268	WEIGHT KIT	1
12	709569	ZERO ENTRY SUPPORT KIT	5
NA	709570	HARDWARE BAG-INTERMEDIATE SECTION	7



## PARTS DIAGRAM & LIST

### 23' 6" SWEEP FOR 48' BIN/HIGH FLOW

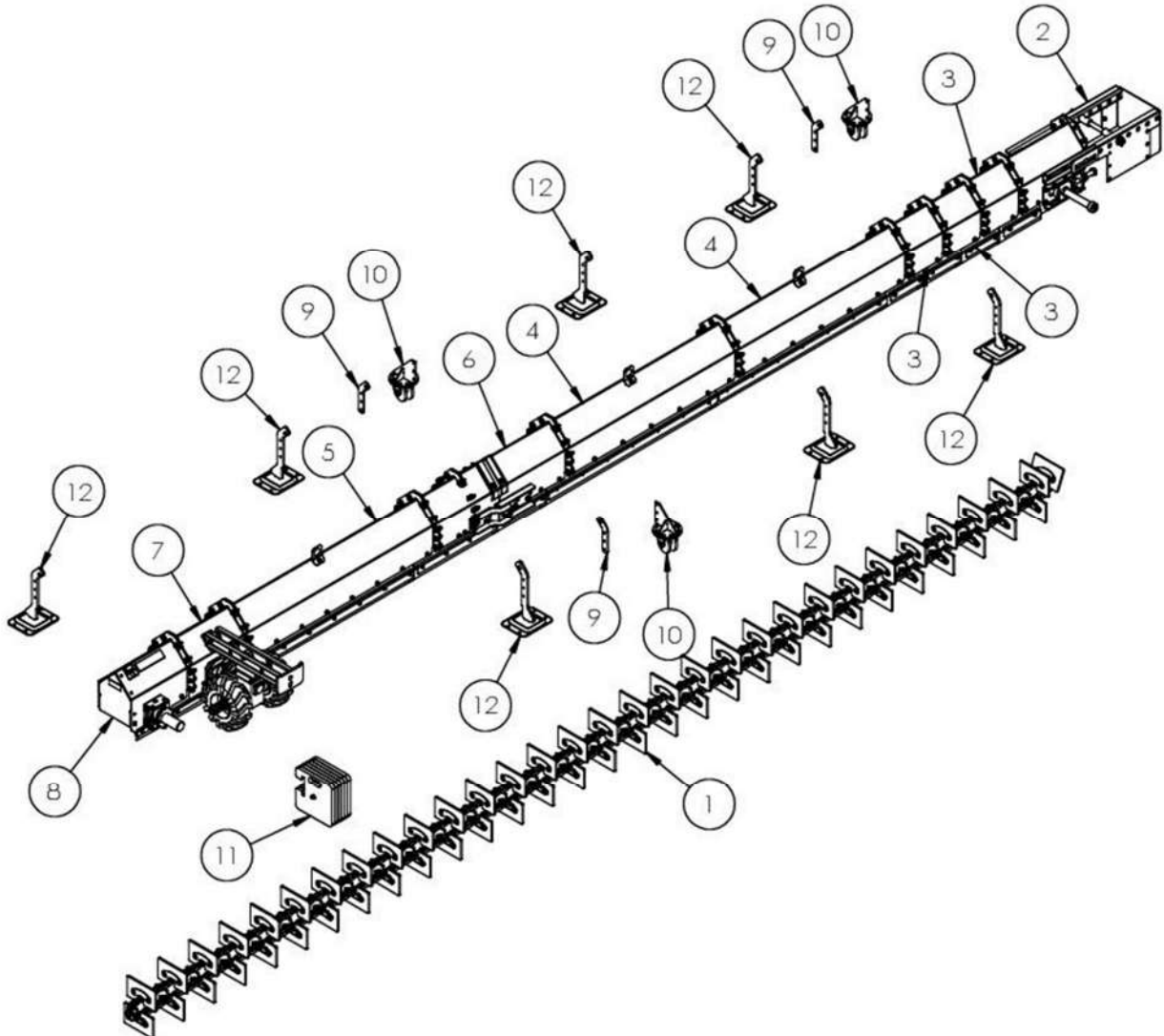
ITEM	PART #	DESCRIPTION	QTY.
1	709910	PADDLE CHAIN	1
2	709563	HEAD SECTION	1
3	709564	INTERMEDIATE SECTION-1'	1
4	709565	INTERMEDIATE SECTION-3'	1
5	709566	INTERMEDIATE SECTION-5'	1
6	709571	PIVOT SECTION	1
7	709870	DRIVE SECTION-40:1	1
8	709885	END SECTION	1
9	709648	FLANGE REINFORCEMENT PLATE	3
10	702692	ROLLER WHEEL	3
11	686268	WEIGHT KIT	1
12	709569	ZERO ENTRY SUPPORT KIT	5
NA	709570	HARDWARE BAG-INTERMEDIATE SECTION	7



## PARTS DIAGRAM & LIST

### 26' 6" SWEEP FOR 54' BIN/HIGH FLOW

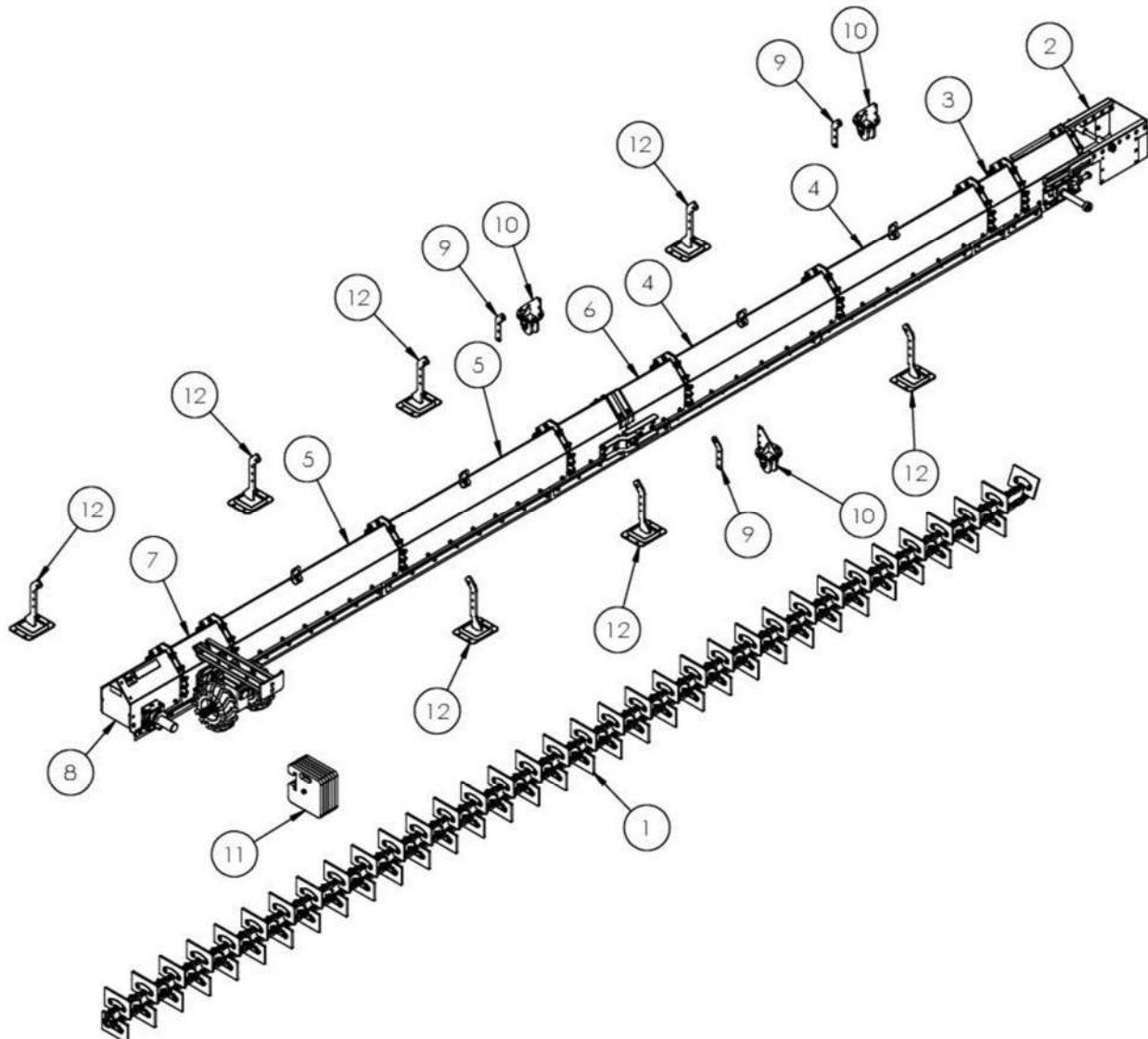
ITEM	PART #	DESCRIPTION	QTY.
1	709911	PADDLE CHAIN	1
2	709563	HEAD SECTION	1
3	709564	INTERMEDIATE SECTION-1'	3
4	709900	INTERMEDIATE SECTION-4'-6"	2
5	709566	INTERMEDIATE SECTION-5'	1
6	709571	PIVOT SECTION	1
7	709870	DRIVE SECTION-40:1	1
8	709885	END SECTION	1
9	709648	FLANGE REINFORCEMENT PLATE	3
10	702692	ROLLER WHEEL	3
11	686268	WEIGHT KIT	1
12	709569	ZERO ENTRY SUPPORT KIT	7
NA	709570	HARDWARE BAG-INTERMEDIATE SECTION	10



## PARTS DIAGRAM & LIST

### 29' 6" SWEEP FOR 60' BIN/HIGH FLOW

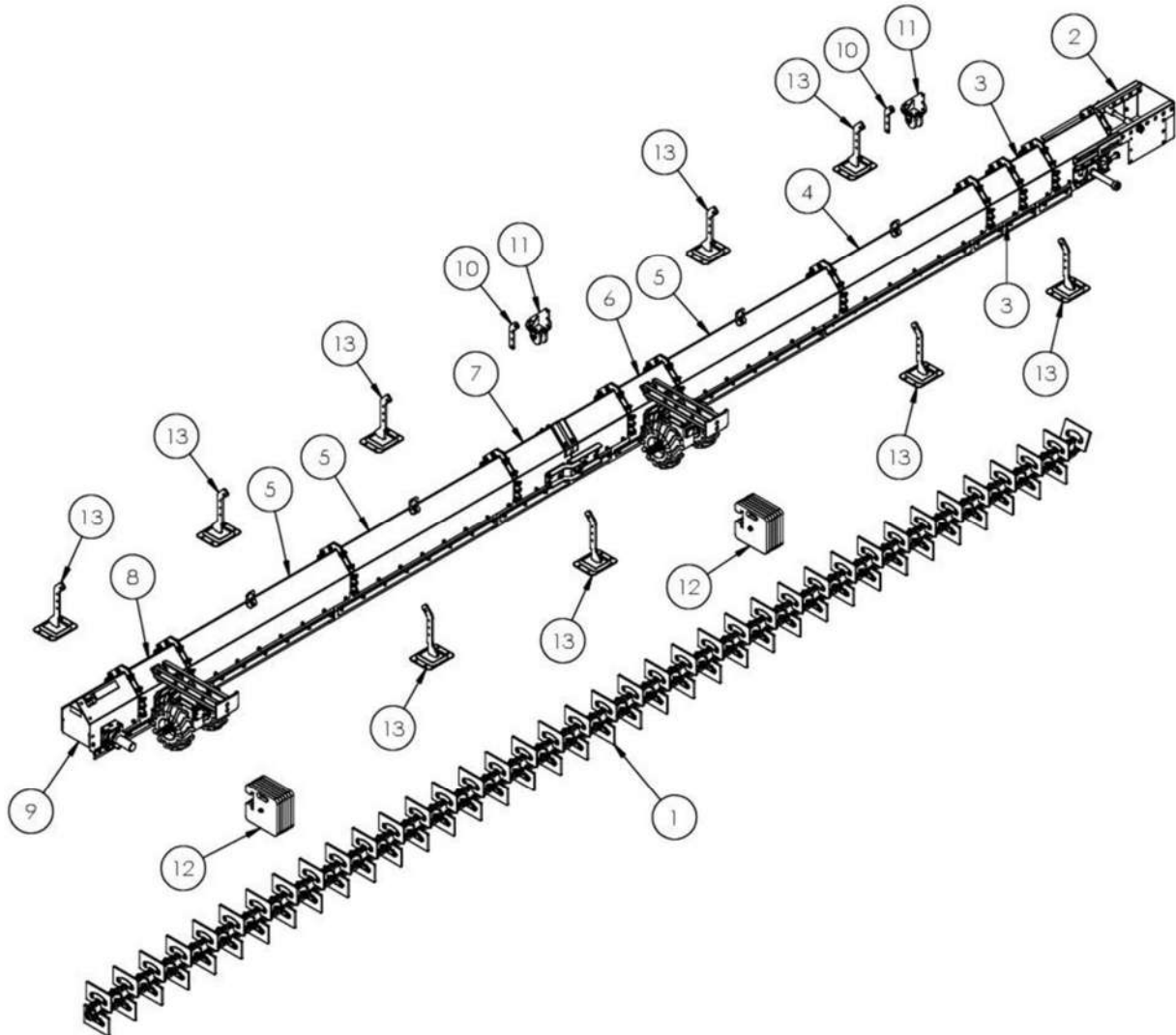
ITEM	PART #	DESCRIPTION	QTY.
1	709914	PADDLE CHAIN	1
2	709563	HEAD SECTION	1
3	709564	INTERMEDIATE SECTION-1'	1
4	709900	INTERMEDIATE SECTION-4'-6"	2
5	709566	INTERMEDIATE SECTION-5'	2
6	709571	PIVOT SECTION	1
7	709870	DRIVE SECTION-40:1	1
8	709885	END SECTION	1
9	709648	FLANGE REINFORCEMENT PLATE	3
10	702692	ROLLER WHEEL	3
11	686268	WEIGHT KIT	1
12	709569	ZERO ENTRY SUPPORT KIT	7
NA	709570	HARDWARE BAG-INTERMEDIATE SECTION	8



## PARTS DIAGRAM & LIST

### 32' 6" SWEEP FOR 66' BIN/HIGH FLOW

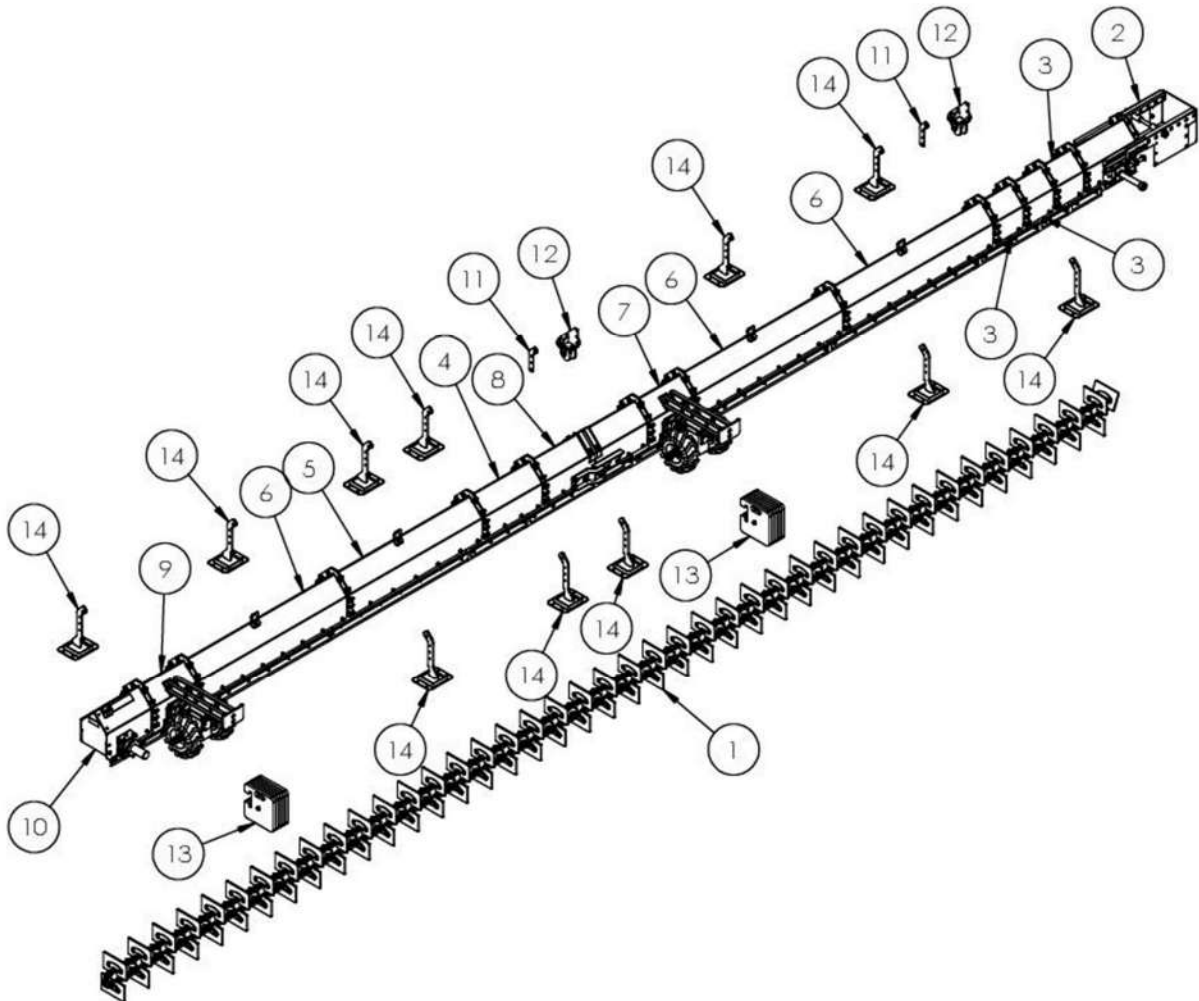
ITEM	PART #	DESCRIPTION	QTY.
1	709915	PADDLE CHAIN	1
2	709563	HEAD SECTION	1
3	709564	INTERMEDIATE SECTION-1'	2
4	709900	INTERMEDIATE SECTION-4'-6"	1
5	709566	INTERMEDIATE SECTION-5'	3
6	709880	DRIVE SECTION-60:1	1
7	709571	PIVOT SECTION	1
8	709865	DRIVE SECTION-30:1	1
9	709885	END SECTION	1
10	709648	FLANGE REINFORCEMENT PLATE	2
11	702692	ROLLER WHEEL	2
12	686268	WEIGHT KIT	2
13	709569	ZERO ENTRY SUPPORT KIT	9
NA	709570	HARDWARE BAG-INTERMEDIATE SECTION	10



## PARTS DIAGRAM & LIST

### 35' 6" SWEEP FOR 72' BIN/HIGH FLOW

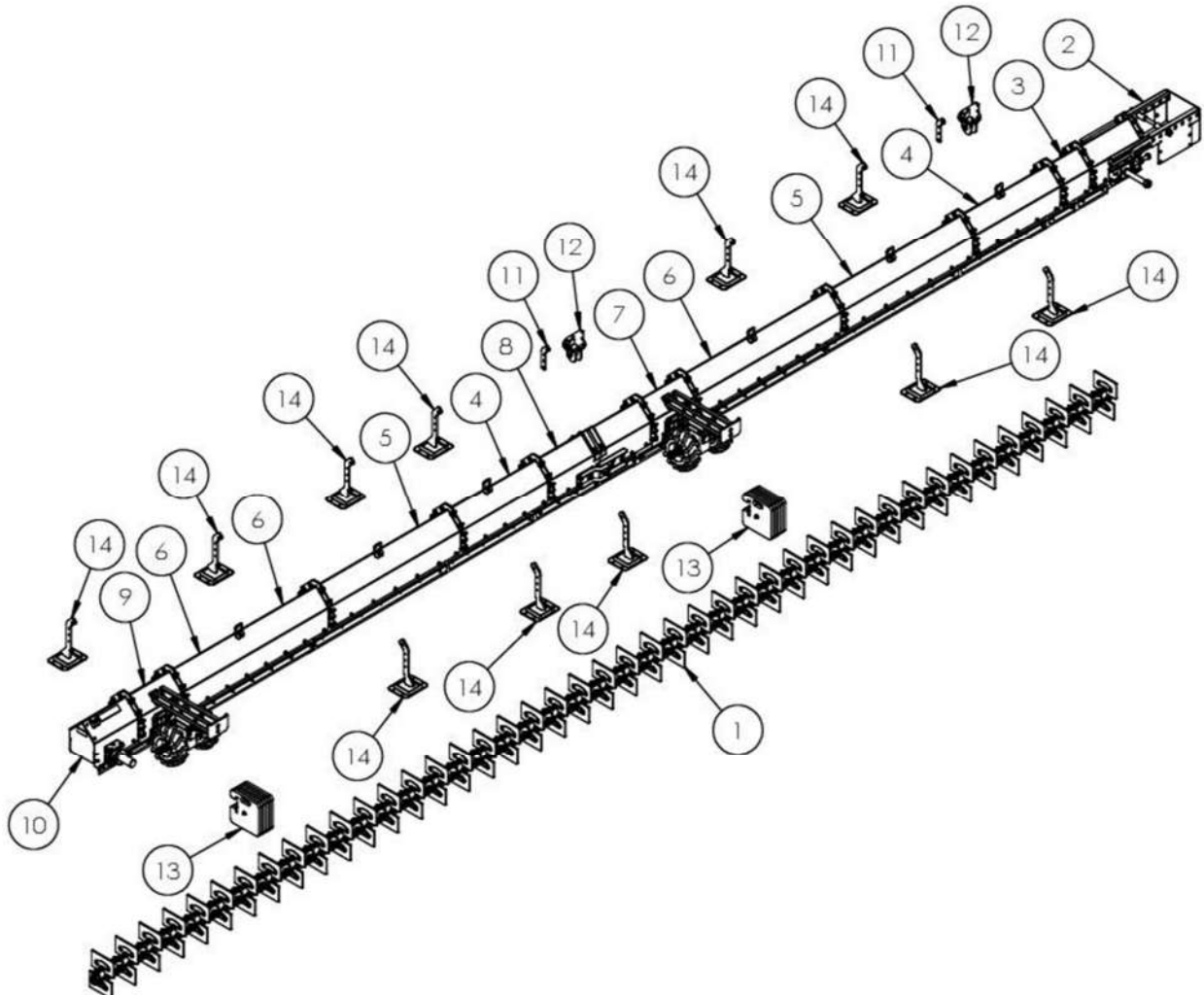
ITEM	PART #	DESCRIPTION	QTY.
1	709916	PADDLE CHAIN	1
2	709563	HEAD SECTION	1
3	709564	INTERMEDIATE SECTION-1'	3
4	709572	INTERMEDIATE SECTION-2'	1
5	709900	INTERMEDIATE SECTION-4'-6"	1
6	709566	INTERMEDIATE SECTION-5'	3
7	709880	DRIVE SECTION-60:1	1
8	709571	PIVOT SECTION	1
9	709865	DRIVE SECTION-30:1	1
10	709885	END SECTION	1
11	709648	FLANGE REINFORCEMENT PLATE	2
12	702692	ROLLER WHEEL	2
13	686268	WEIGHT KIT	2
14	709569	ZERO ENTRY SUPPORT KIT	11
NA	709570	HARDWARE BAG-INTERMEDIATE SECTION	12



## PARTS DIAGRAM & LIST

### 37' SWEEP FOR 75' BIN/HIGH FLOW

ITEM	PART #	DESCRIPTION	QTY.
1	709918	PADDLE CHAIN	1
2	709563	HEAD SECTION	1
3	709564	INTERMEDIATE SECTION-1'	1
4	709565	INTERMEDIATE SECTION-3'	2
5	709900	INTERMEDIATE SECTION-4'-6"	2
6	709566	INTERMEDIATE SECTION-5'	2
7	709880	DRIVE SECTION-60:1	1
8	709571	PIVOT SECTION	1
9	709865	DRIVE SECTION-30:1	1
10	709885	END SECTION	1
11	709648	FLANGE REINFORCEMENT PLATE	2
12	702692	ROLLER WHEEL	2
13	686268	WEIGHT KIT	2
14	709569	ZERO ENTRY SUPPORT KIT	11
NA	709570	HARDWARE BAG-INTERMEDIATE SECTION	11

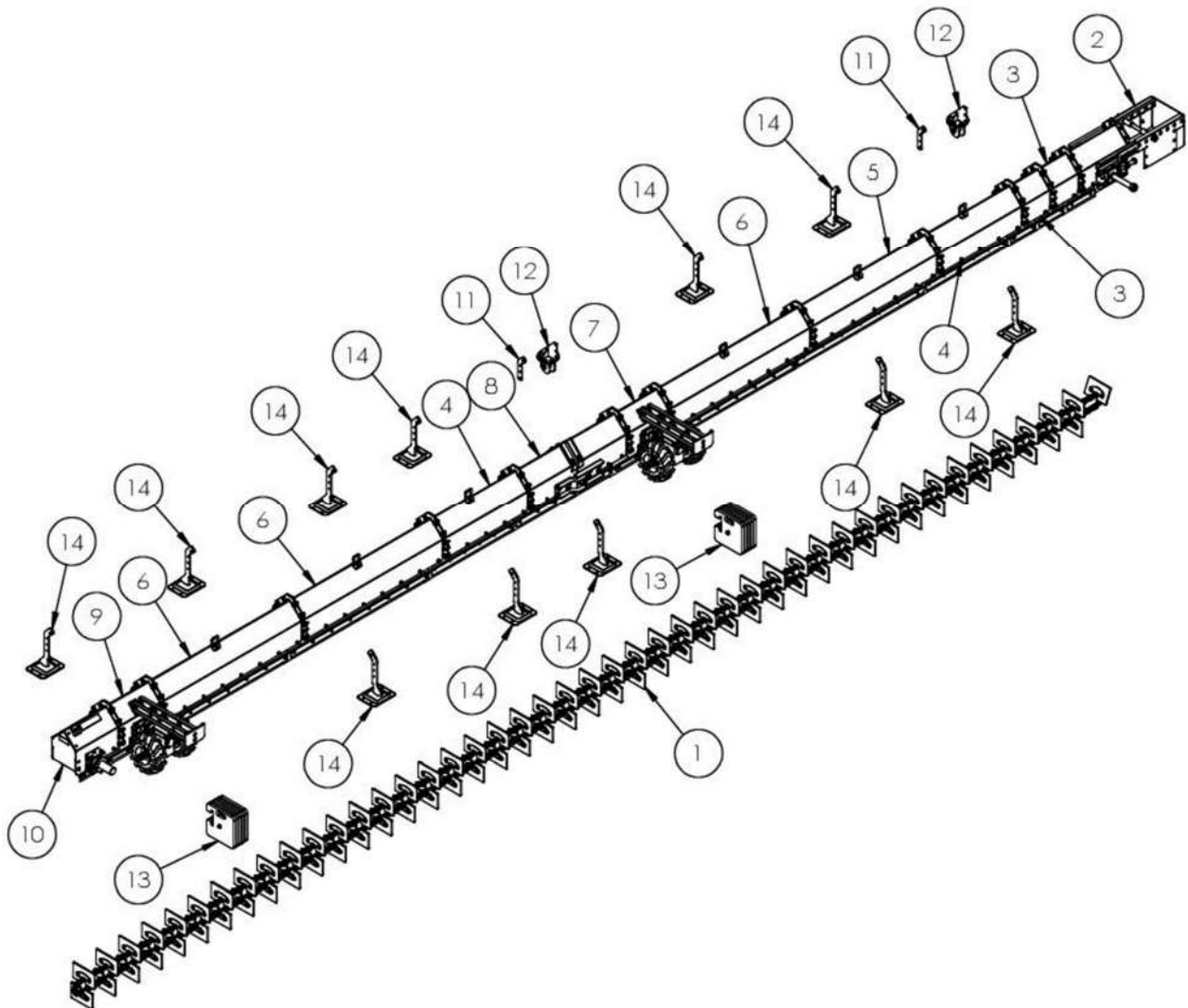




## PARTS DIAGRAM & LIST

### 38' 6" SWEEP FOR 78' BIN/HIGH FLOW

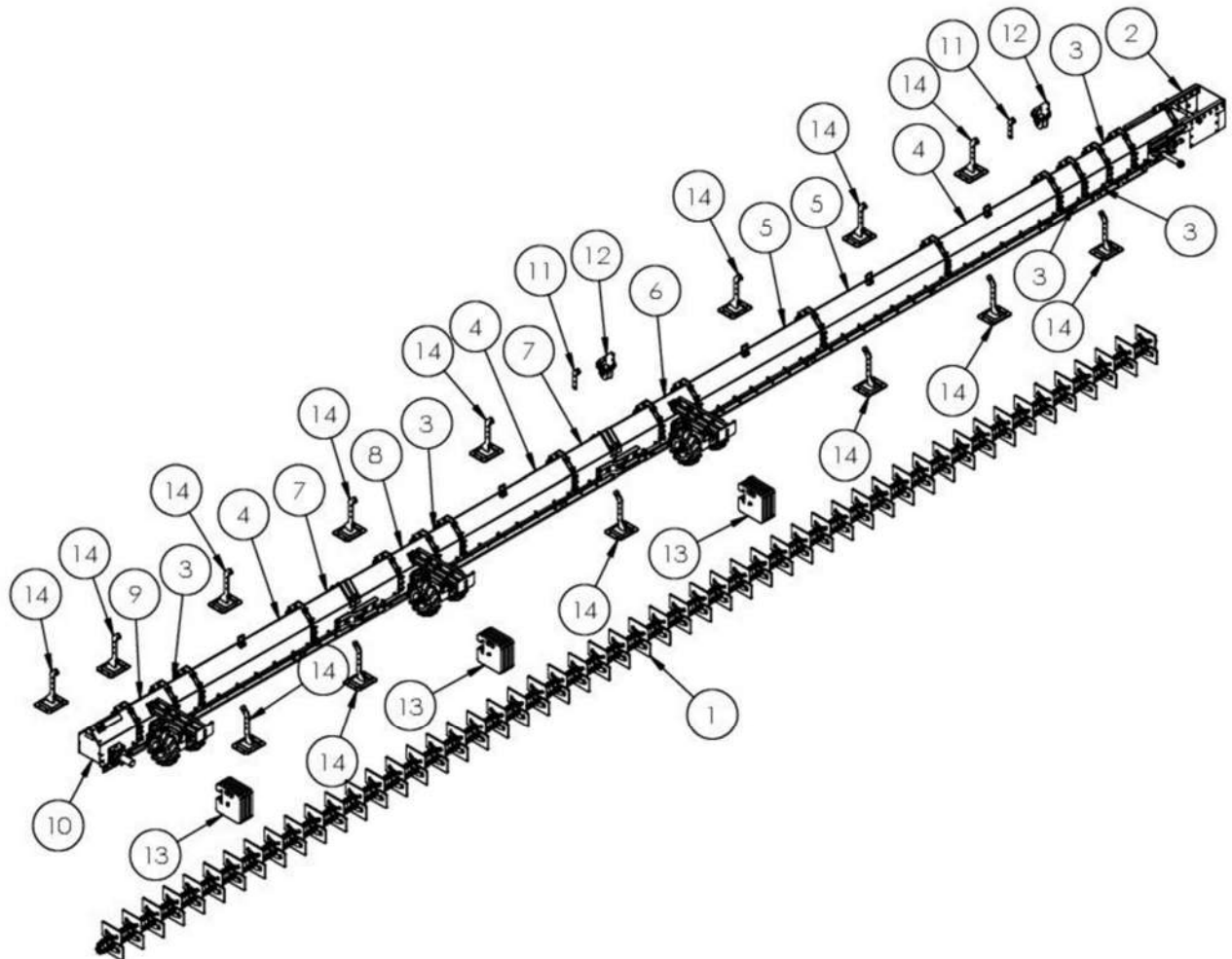
ITEM	PART #	DESCRIPTION	QTY.
1	709920	PADDLE CHAIN	1
2	709563	HEAD SECTION	1
3	709564	INTERMEDIATE SECTION-1'	2
4	709565	INTERMEDIATE SECTION-3'	2
5	709900	INTERMEDIATE SECTION-4'-6"	1
6	709566	INTERMEDIATE SECTION-5'	3
7	709880	DRIVE SECTION-60:1	1
8	709571	PIVOT SECTION	1
9	709865	DRIVE SECTION-30:1	1
10	709885	END SECTION	1
11	709648	FLANGE REINFORCEMENT PLATE	2
12	702692	ROLLER WHEEL	2
13	686268	WEIGHT KIT	2
14	709569	ZERO ENTRY SUPPORT KIT	11
NA	709570	HARDWARE BAG-INTERMEDIATE SECTION	12



## PARTS DIAGRAM & LIST

### 44' 6" SWEEP FOR 90' BIN/HIGH FLOW

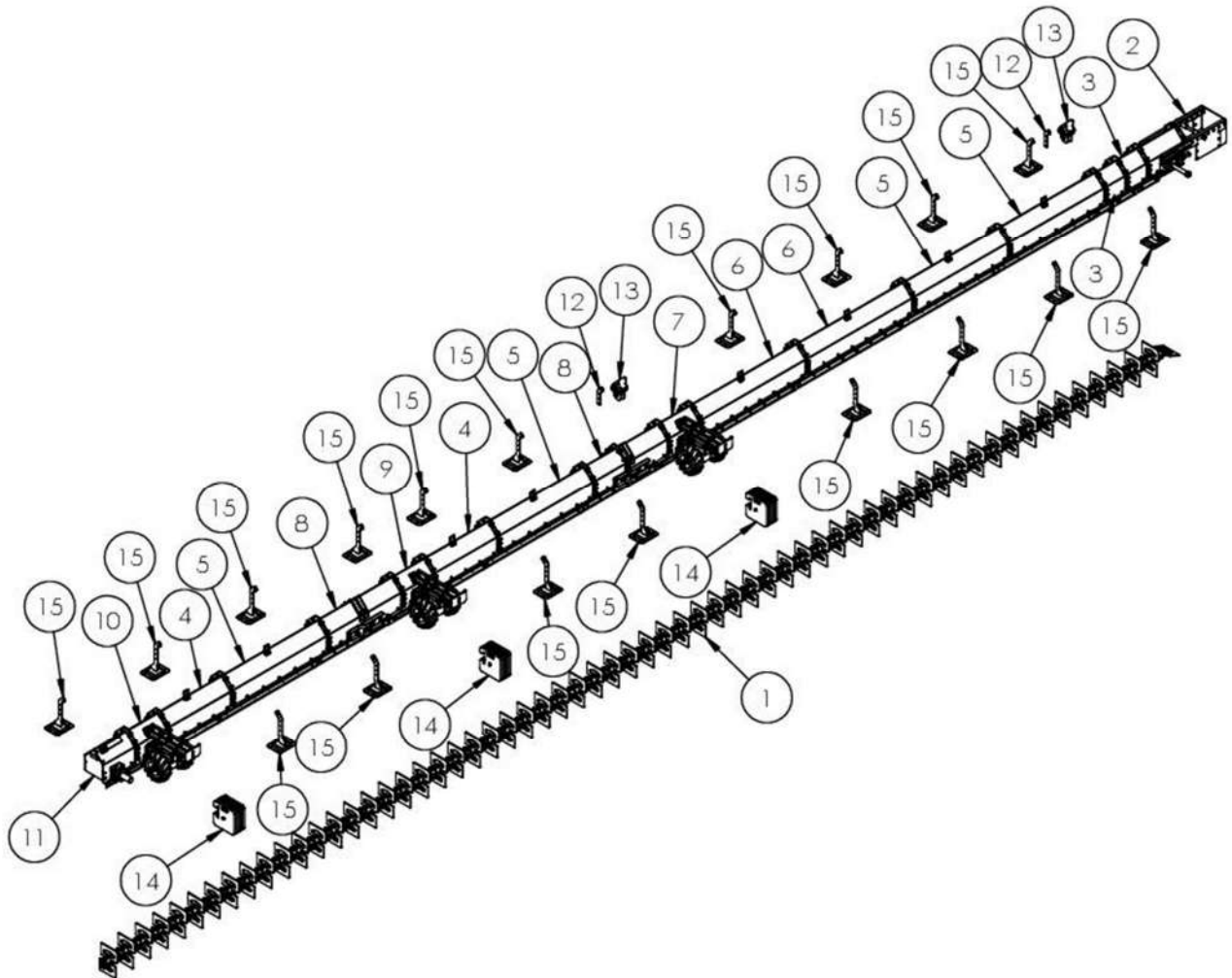
ITEM	PART #	DESCRIPTION	QTY.
1	709921	PADDLE CHAIN	1
2	709563	HEAD SECTION	1
3	709564	INTERMEDIATE SECTION-1'	5
4	709900	INTERMEDIATE SECTION-4'-6"	3
5	709566	INTERMEDIATE SECTION-5'	2
6	709880	DRIVE SECTION-60:1	1
7	709571	PIVOT SECTION	2
8	709870	DRIVE SECTION-40:1	1
9	709865	DRIVE SECTION-30:1	1
10	709885	END SECTION	1
11	709648	FLANGE REINFORCEMENT PLATE	2
12	702692	ROLLER WHEEL	2
13	686268	WEIGHT KIT	3
14	709569	ZERO ENTRY SUPPORT KIT	14
NA	709570	HARDWARE BAG-INTERMEDIATE SECTION	16



## PARTS DIAGRAM & LIST

### 52' SWEEP FOR 105' BIN/HIGH FLOW

ITEM	PART #	DESCRIPTION	QTY.
1	686395	PADDLE CHAIN	1
2	709563	HEAD SECTION	1
3	709564	INTERMEDIATE SECTION-1'	2
4	709565	INTERMEDIATE SECTION-3'	2
5	709900	INTERMEDIATE SECTION-4'-6"	4
6	709566	INTERMEDIATE SECTION-5'	2
7	709880	DRIVE SECTION-60:1	1
8	709571	PIVOT SECTION	2
9	709870	DRIVE SECTION-40:1	1
10	709865	DRIVE SECTION-30:1	1
11	709885	END SECTION	1
12	709648	FLANGE REINFORCEMENT PLATE	2
13	702692	ROLLER WHEEL	2
14	686268	WEIGHT KIT	3
15	709569	ZERO ENTRY SUPPORT KIT	18
NA	709570	HARDWARE BAG-INTERMEDIATE SECTION	17



## PARTS DIAGRAM & LIST

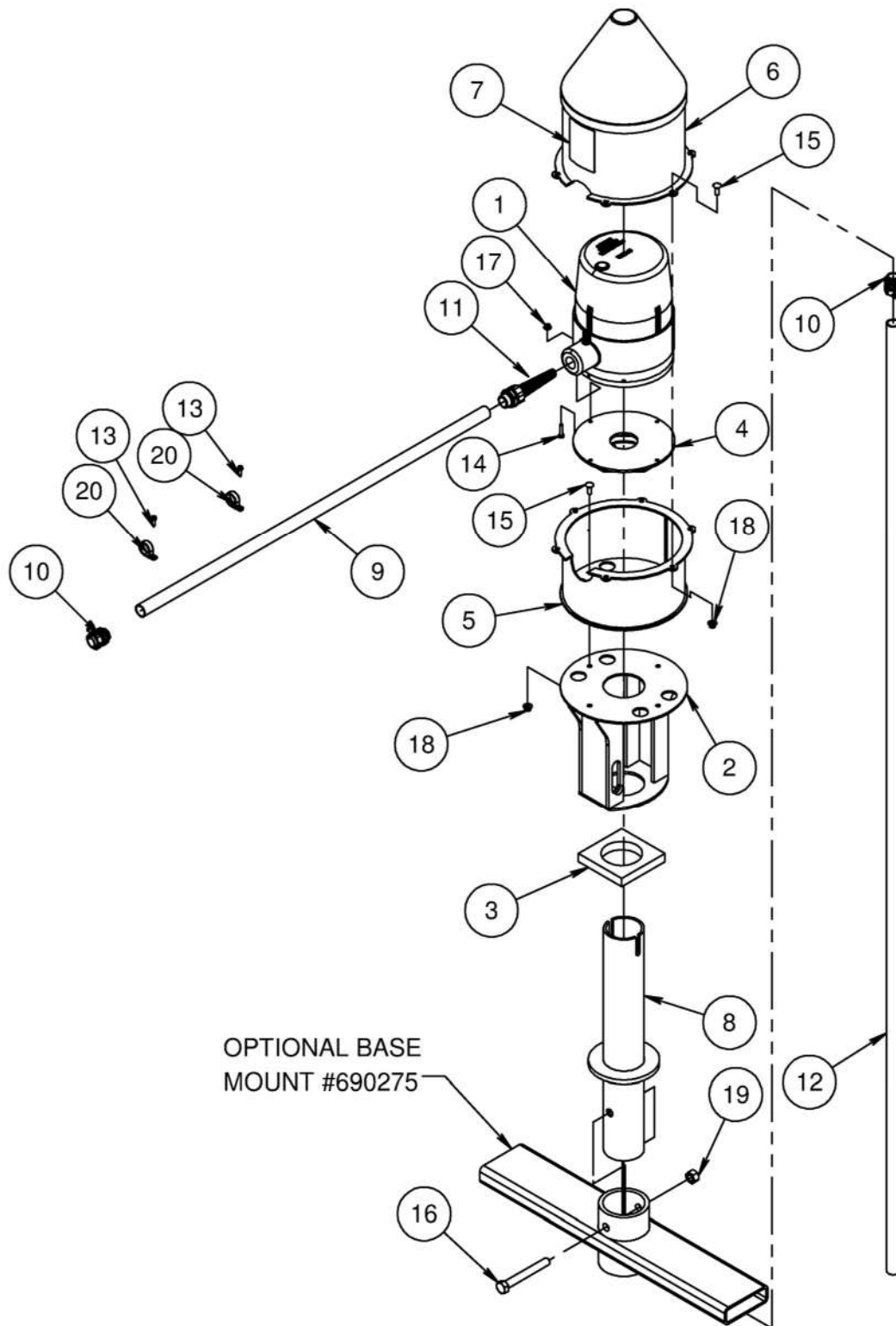
### (701595) COLLECTOR RING KIT

ITEM	PART #	DESCRIPTION	QTY
1	688281	SLIP RING	1
2	688300	PIVOT MOUNT	1
3	688306	BUSHING	1
4	688307	LOCKING PLATE	1
5	688310	LOWER CASING	1
6	688315	TOP CASING	1
7	688462	SAFETY DECAL	1
8	690270	COLLECTOR RING MOUNT	1
9	695210	1" FLEXIBLE METAL CONDUIT; 48"	1
10	695211	LIQUIDTIGHT STRAIGHT CONNECTOR	2
11	701352	LIQUIDTIGHT STRAIGHT CONNECTOR W/MESH	1
12	701365	1" FLEXIBLE METAL CONDUIT; 114"	1
13	682441	SELF TAPPING SCREW; 1/4" X 1"	2
14	654751	HH CAP SCREW; 1/4" X 1 1/4"	4
15	640030	CARRIAGE BOLT; 3/8" X 1"	10
16	640109	HH CAP SCREW; 3/4" X 6"	1
17	682523	SERRATED FLANGE NUT; 1/4"	4
18	701182	CENTERLOCK FLANGE NUT; 3/8"	10
19	640146	HEXNUT; 3/4"	1
20	702673	LOOP CLAMP	2

**PARTS DIAGRAM & LIST**

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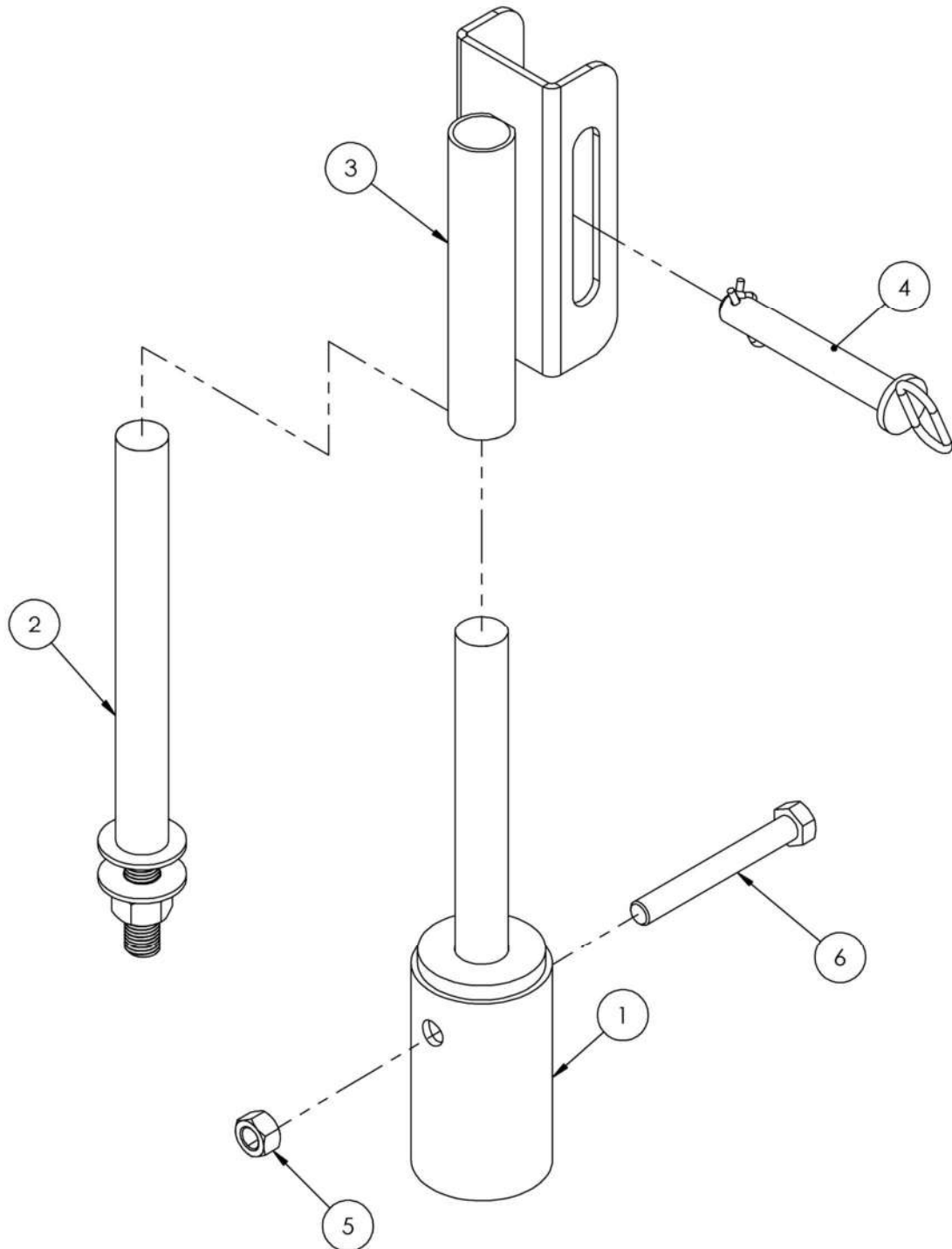
**(701595) COLLECTOR RING KIT**



## PARTS DIAGRAM & LIST

### (704112) UNIVERSAL PIVOT KIT

ITEM	PART #	DESCRIPTION	QTY
1	704109	SIOUX STEEL PIVOT ADAPTOR	1
2	704116	UNIVERSAL PIVOT ADAPTOR	1
3	704114	PIVOT BUSHING	1
4	680144	PIVOT PIN W/HITCH PIN CLIP	1
5	640146	HEXNUT; 3/4"	1
6	640109	HHC SCREW; 3/4" X 6.00"	1



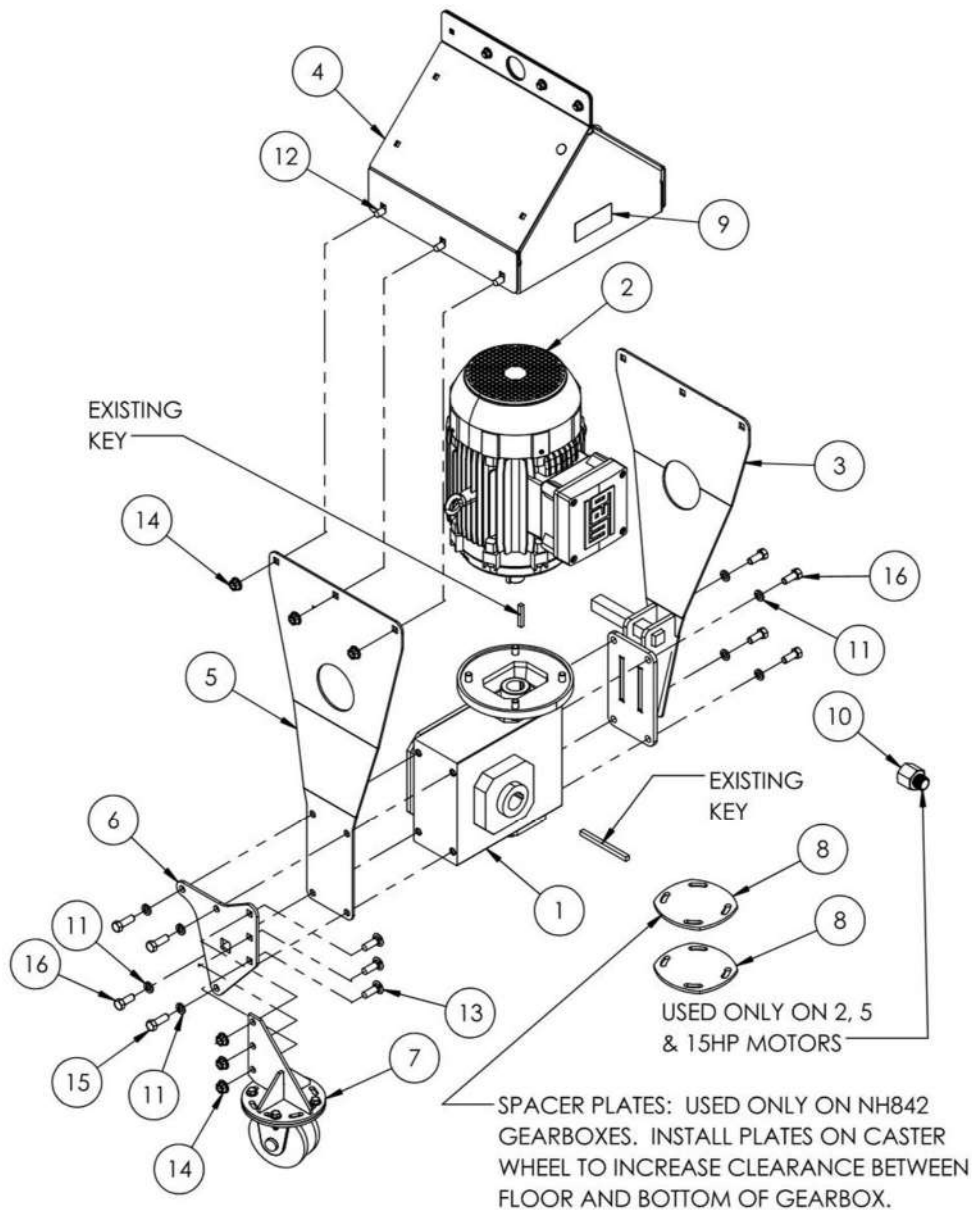
## PARTS DIAGRAM & LIST

MOTOR & GEARBOX			
ITEM	PART #	DESCRIPTION	QTY
1	709650	GEARBOX; 5:1-GR826	1
	686245	GEARBOX; 5:1-GR830	1
	711332	GEARBOX; 5:1-GR832	1
	687989	GEARBOX; 5:1-NH842	1
	711334	GEARBOX; 7.5:1-GR830	1
	687969	GEARBOX; 7.5:1-GR832	1
	711333	GEARBOX; 7.5:1-NH842-210TC	1
	688298	GEARBOX; 7.5:1-NH842-250TC	1
	709975	GEARBOX; 10:1-GR830	1
	688294	GEARBOX; 10:1-GR832	1
	709987	GEARBOX; 10:1-NH842	1
	709653	GEARBOX; 15:1-GR826	1
	711331	GEARBOX; 15:1-GR832	1
	704026	GEARBOX; 15:1-NH842	1
	709654	GEARBOX; 20:1-GR826	1
	701589	GEARBOX; 20:1-NH842	1
	711330	GEARBOX; 30:1-GR830	1
	695179	GEARBOX; 30:1-NH842	1
2	689393	ELECTRIC MOTOR; 2 HP-230-460v	1
	704954	ELECTRIC MOTOR; 2 HP 575v	1
	686001	ELECTRIC MOTOR; 5 HP-230-460v	1
	689282	ELECTRIC MOTOR; 5 HP-575v	1
	686246	ELECTRIC MOTOR; 7.5 HP 230-460v	1
	689285	ELECTRIC MOTOR; 7.5 HP 575v	1
	685952	ELECTRIC MOTOR; 10 HP 230-460v	1
	688481	ELECTRIC MOTOR; 10 HP 575v	1
	687991	ELECTRIC MOTOR; 15 HP 230-460v	1
	689289	ELECTRIC MOTOR; 15 HP 575v	1
3	686385	TORQUE ARM BRACKET-GR826	1
	686287	TORQUE ARM BRACKET-GR830	1
	687922	TORQUE ARM BRACKET-GR832	1
	687955	TORQUE ARM BRACKET-NH842	1
4	709573	ROOF COVER (GR826, GR830, GR832)	1
	709684	ROOF COVER (NH842)	1
5	686387	FRONT SUPPORT PLATE-GR826	1
	686318	FRONT SUPPORT PLATE-GR830	1
	687921	FRONT SUPPORT PLATE-GR832	1
	687951	FRONT SUPPORT PLATE-NH842	1
6	701446	ADAPTER PLATE-GR826	1
	701447	ADAPTER PLATE-GR830	1
	701448	ADAPTER PLATE-GR832	1
	701449	ADAPTER PLATE-NH842	1
7	702692	CASTER	1
8	701458	SPACER PLATE (USED ONLY ON NH842 GEARBOXES)	2
9	688358	DECAL; IMPORTANT	1
10	702672	ELECTRIC REDUCER BUSHING-1" TO 3/4"	1
	190476	ELECTRIC REDUCER BUSHING-1" TO 1 1/4"	1

## PARTS DIAGRAM & LIST

### MOTOR & GEARBOX

ITEM	PART #	DESCRIPTION	QTY
11	640153	LOCKWASHER; 3/8"	8
	640155	LOCKWASHER; 7/16"	8
	640157	LOCKWASHER; 1/2"	8
12	683931	CARRIAGE BOLT; 1/2" X 1"	6
13	701181	CARRIAGE BOLT; 1/2" X 1 1/2"	3
14	699010	CENTERLOCK FLANGE NUT; 1/2"	9
15	640032	HH CAP SCREW; 3/8" X 1 1/4"	3
	640050	HH CAP SCREW; 7/16" X 1 1/2"	3
	640059	HH CAP SCREW; 1/2" X 1 1/2"	3
16	640028	HH CAP SCREW; 3/8" X 1"	5
	640049	HH CAP SCREW; 7/16" X 1 1/4"	5
	640058	HH CAP SCREW; 1/2" X 1 1/4"	5
NA	698466	VENT PLUG	

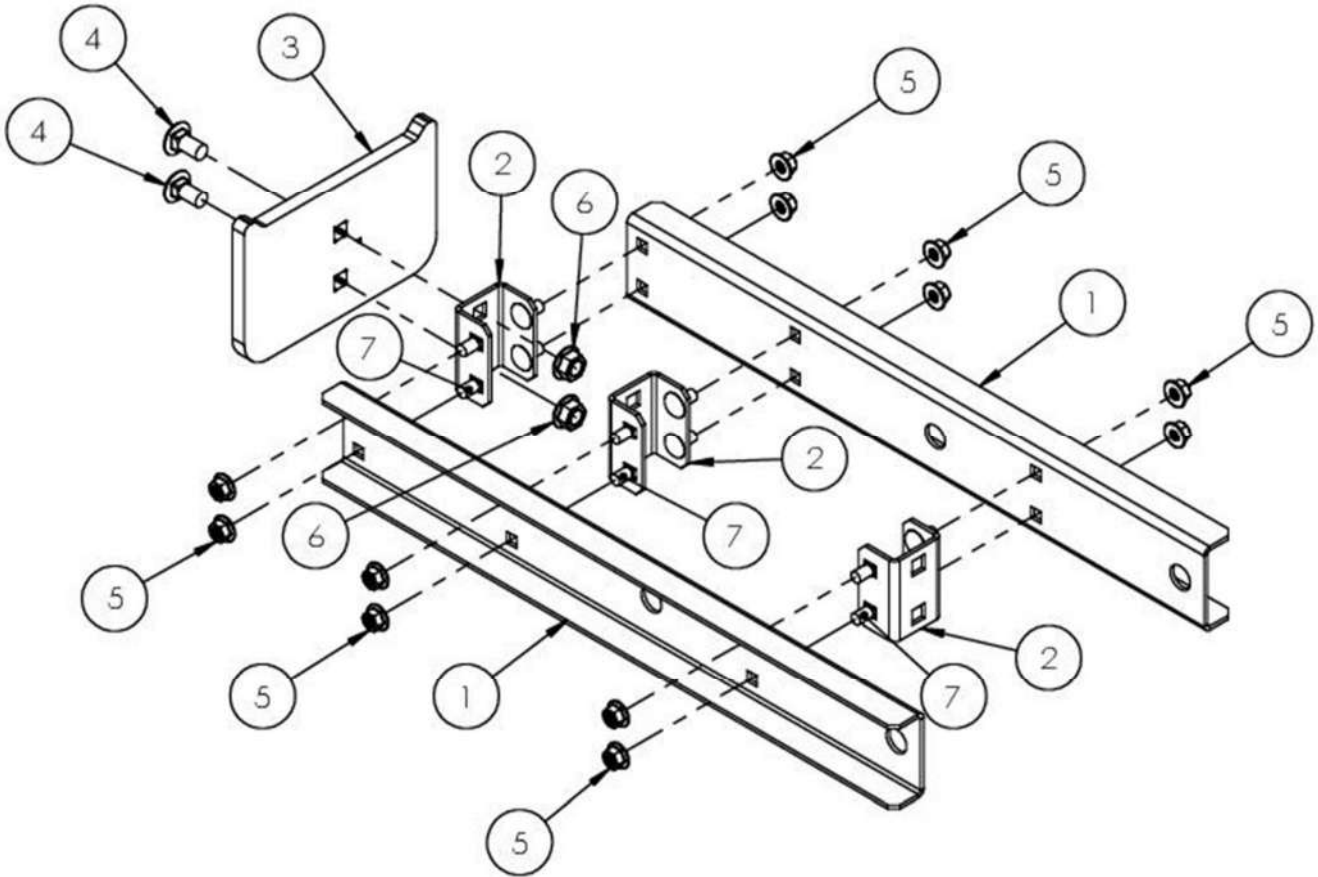




## PARTS DIAGRAM & LIST

### (709579) WEIGHT BRACKET

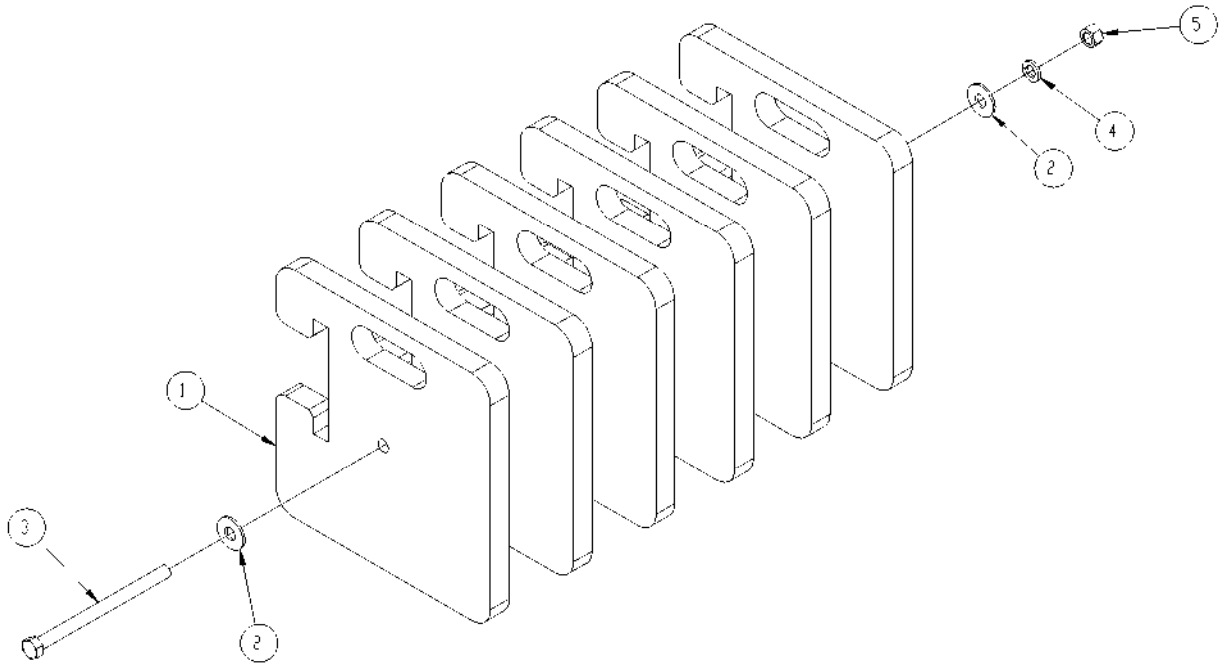
ITEM	PART #	DESCRIPTION	QTY
1	709716	WEIGHT BRACKET RAIL	2
2	709717	MIDDLE SPACER	3
3	709718	WEIGHT RECIEVER	1
4	712209	CARRIAGE BOLT; 1/2" X 1-1/4"	2
5	701182	FLANGE NUT; 3/8"	12
6	699010	FLANGE NUT; 1/2"	2
7	683942	CARRIAGE BOLT; 3/8" X 3/4"	12



## PARTS DIAGRAM & LIST

### (686268) 200 LB WEIGHT KIT

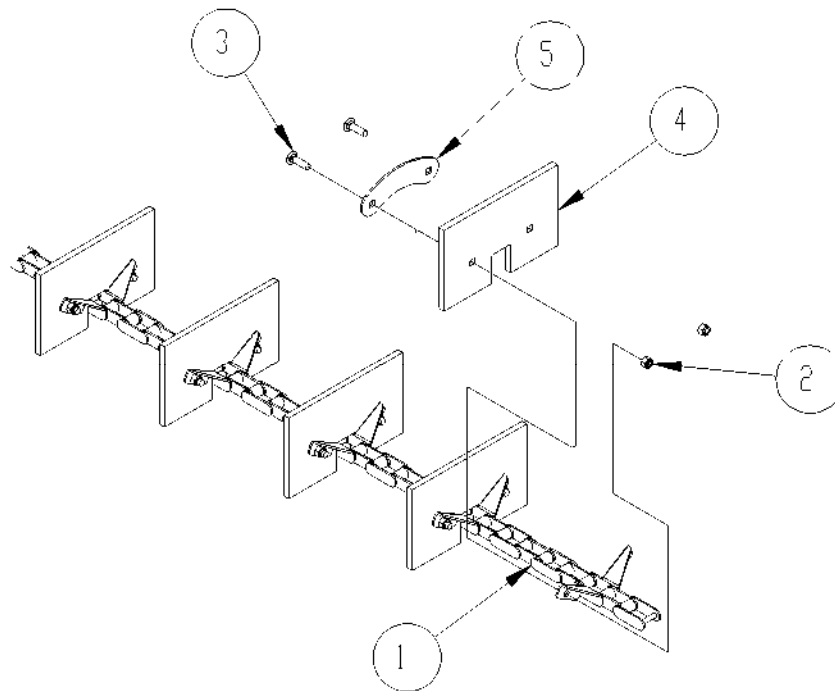
ITEM	PART #	DESCRIPTION	QTY
1	686267	WEIGHT	6
2	640158	FLATWASHER; 1/2"	2
3	652173	HH CAP SCREW; 1/2" X 7"	1
4	640157	LOCKWASHER; 1/2"	1
5	640139	HEXNUT; 1/2"	1



## PARTS DIAGRAM & LIST

### PADDLE CHAIN

ITEM	PART #	DESCRIPTION	QTY
1	688591	PADDLE CHAIN-CA550	50 FT
2	654121	LOCKNUT NYLON; 3/8"	
3	680140	CARRIAGE BOLT; 3/8" x 1 1/4"	
4	686081	RUBBER PADDLE	
5	686111	PADDLE BACKING PLATE	
NA	688376	#550 HALF LINK	
NA	686010	MALE CONNECTOR LINK	
*FOR COMPLETE PADDLE CHAIN ASSEMBLY REFER TO SWEEP SIZE PARTS DIAGRAM & LIST			



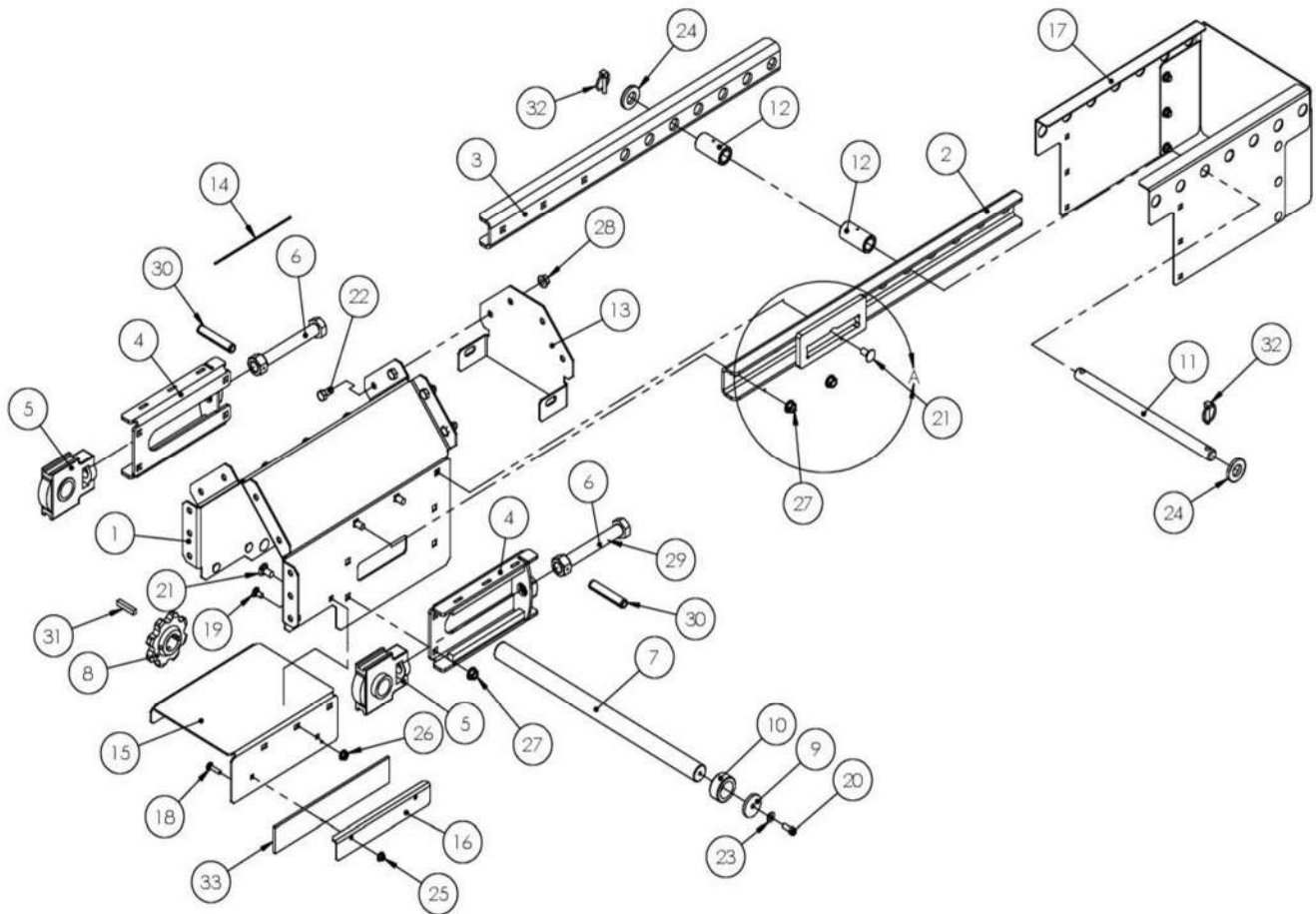
## PARTS DIAGRAM & LIST

### (709563) HEAD SECTION

ITEM	PART #	DESCRIPTION	QTY
1	709610	COVER	1
2	709580	TORQUE ARM BRACKET	1
3	709614	PIVOT ARM PLATE	1
4	709588	TAKE-UP FRAME BRACKET	2
5	686230	TAKE-UP BEARING	2
6	686258	1" BOLT W/1" JAMNUT	2
7	686247	SHAFT	1
8	686248	SPROCKET; 8 TOOTH	1
9	695897	FLATWASHER; 1/4" x 2"	1
10	701459	COLLAR	1
11	709628	PIVOT PIN	1
12	709691	SPACER	2
13	709617	END CAP PLATE	1
14	686033	DANGER DECAL	1
15	709795	DIVIDER	1
16	709796	DRAG RUBBER COVER PLATE	1
17	709675	METAL SKIRT ASSEMBLY	1
18	686183	CARRIAGE BOLT; 5/16" X 1 1/4"	2
19	683942	CARRIAGE BOLT; 3/8" X 3/4"	4
20	640028	HH CAP SCREW; 3/8" X 1"	1
21	683931	CARRIAGE BOLT; 1/2" X 1"	14
22	640057	HH TAP BOLT; 1/2" X 1"	4
23	640154	FLATWASHER; 3/8"	1
24	709755	WASHER; 1"	2
25	701467	CENTERLOCK FLANGE NUT; 5/16"	2
26	701182	CENTERLOCK FLNAGE NUT; 3/8"	4
27	699010	CENTERLOCK FLANGE NUT; 1/2"	14
28	683932	FLANGE NUT; 1/2"	4
29	652360	HEXNUT; 5/16"	2
30	659679	ROLL PIN; 3/16" X 1 1/2"	2
31	686985	KEY; 3/8" X 2"	1
32	709672	LYNCH PIN; 5/16" X 1 1/4"	2
33	686275	DRAG RUBBER	1

## PARTS DIAGRAM & LIST

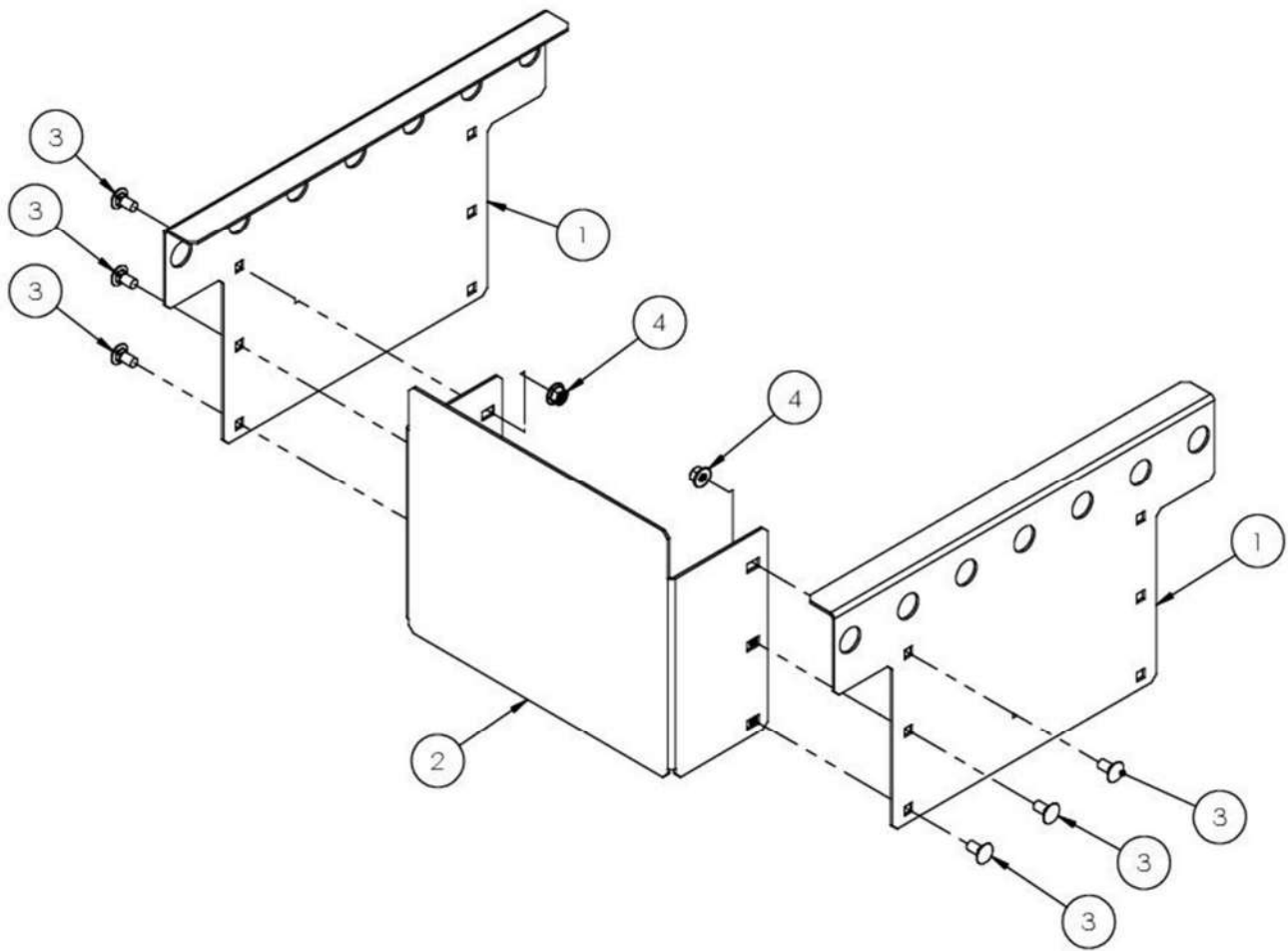
### (709563) HEAD SECTION



## PARTS DIAGRAM & LIST

### (709675) SKIRT

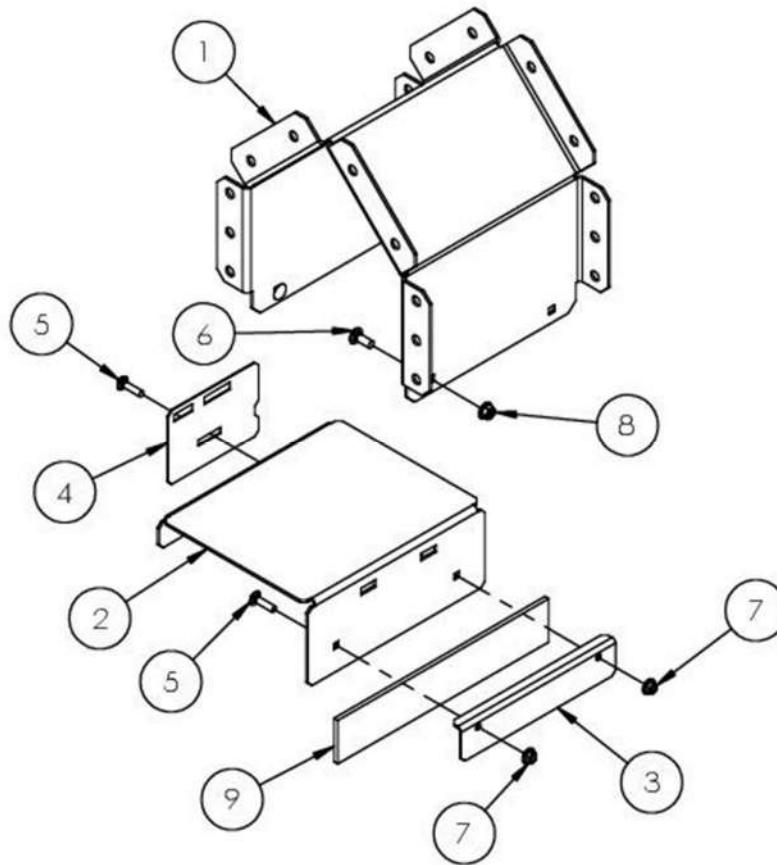
ITEM	PART #	DESCRIPTION	QTY
1	709673	SIDE PLATE	2
2	709674	END PLATE	1
3	683942	CARRIAGE BOLT; 3/8" X 3/4"	6
4	701182	CENTERLOCK FLANGE NUT; 3/8"	6



## PARTS DIAGRAM & LIST

### (709564) 1' INTERMEDIATE SECTION

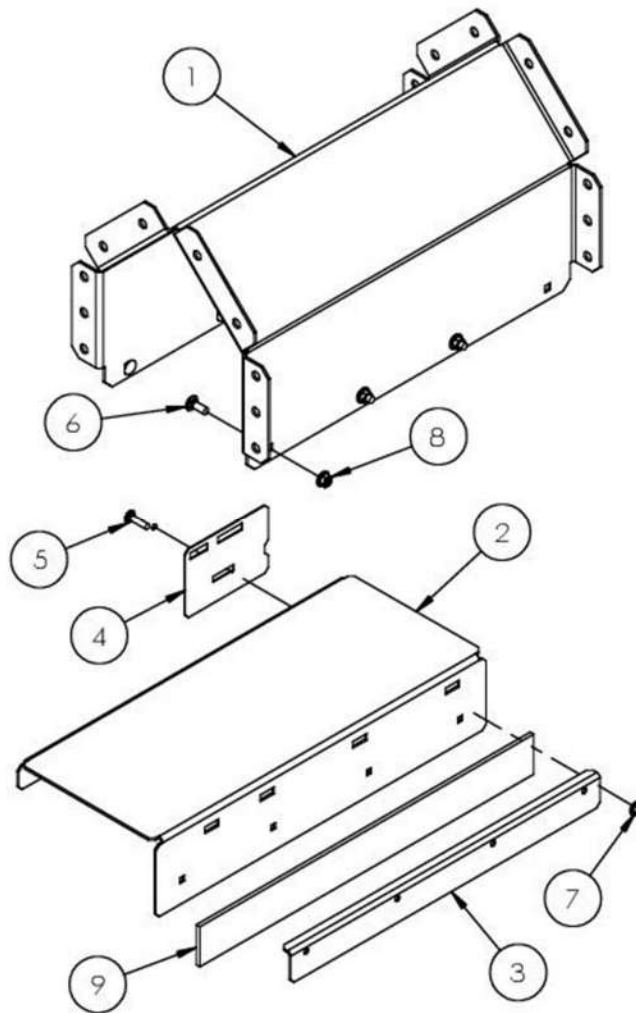
ITEM	PART #	DESCRIPTION	QTY
1	709600	COVER	1
2	709603	DIVIDER	1
3	709606	DRAG RUBBER CLAMP	1
4	709611	SEAM PLATE	1
5	686183	CARRIAGE BOLT; 5/16" X 1 1/4"	2
6	685998	CARRIAGE BOLT; 3/8" X 1"	2
7	701467	CENTERLOCK FLANGE NUT; 5/16"	2
8	701182	CENTERLOCK FLANGE NUT; 3/8"	2
9	686275	DRAG RUBBER	1



## PARTS DIAGRAM & LIST

### (709572) 2' INTERMEDIATE SECTION

alTEM	PART #	DESCRIPTION	QTY
1	709677	COVER	1
2	709678	DIVIDER	1
3	709679	DRAG RUBBER CLAMP	1
4	709611	SEAM PLATE	1
5	686183	CARRIAGE BOLT; 5/16" X 1 1/4"	4
6	685998	CARRIAGE BOLT; 3/8" X 1"	6
7	701467	CENTERLOCK FLANGE NUT; 5/16"	4
8	701182	CENTERLOCK FLANGE NUT; 3/8"	6
9	701915	DRAG RUBBER	1

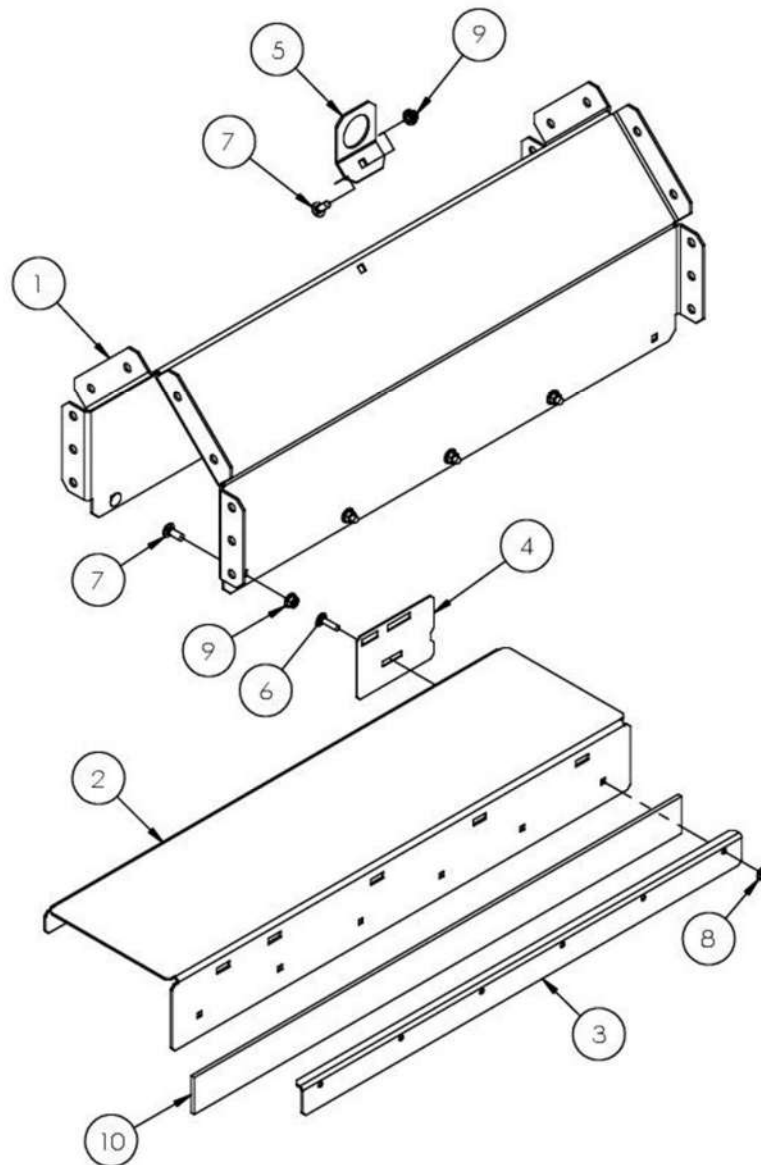




## PARTS DIAGRAM & LIST

### (709565) 3' INTERMEDIATE SECTION

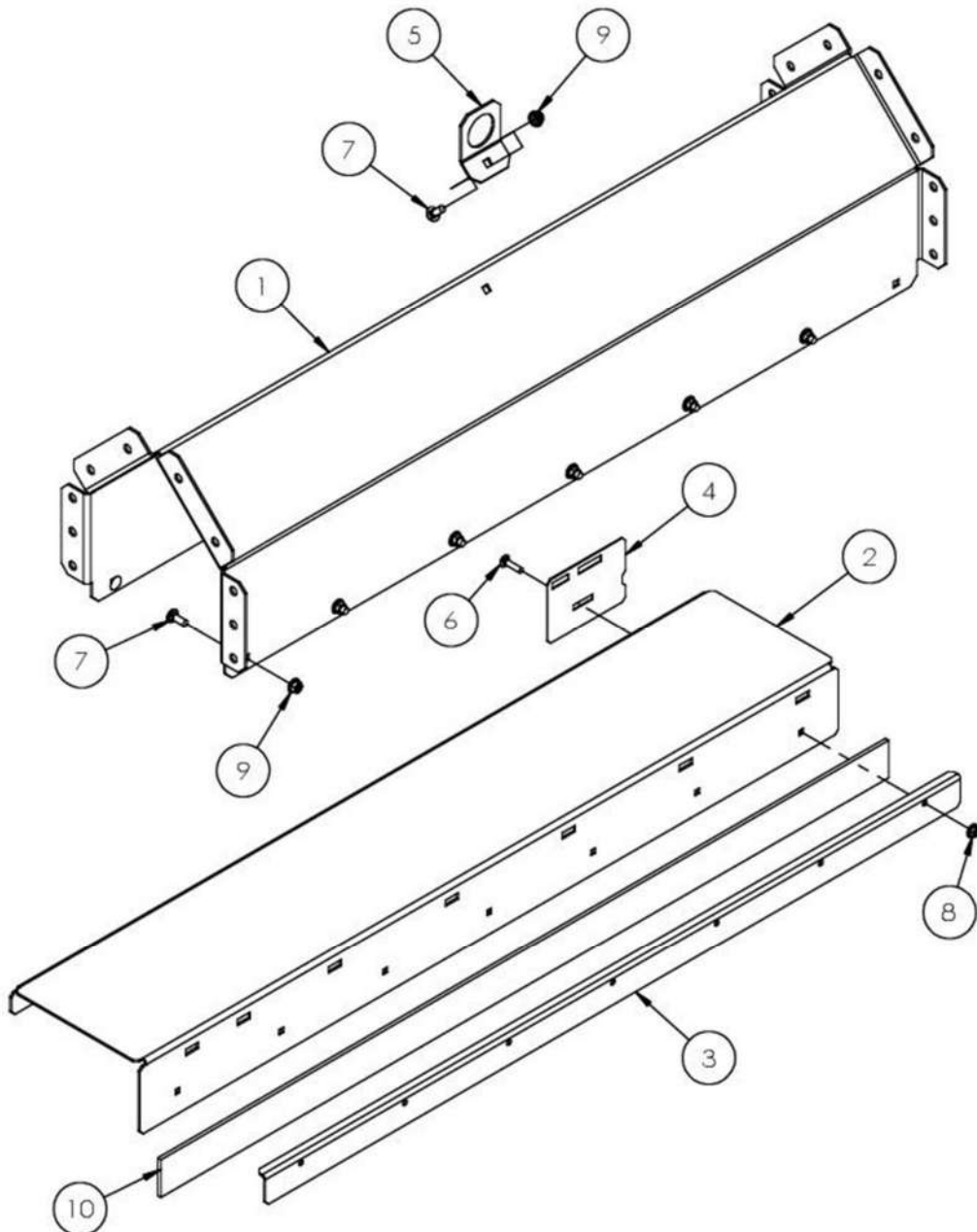
ITEM	PART #	DESCRIPTION	QTY
1	709601	COVER	1
2	709604	DIVIDER	1
3	709607	DRAG RUBBER CLAMP	1
4	709611	SEAM PLATE	1
5	709649	LIFT PLATE	1
6	686183	CARRIAGE BOLT; 5/16" X 1 1/4"	6
7	685998	CARRIAGE BOLT; 3/8" X 1"	9
8	701467	CENTERLOCK FLANGE NUT; 5/16"	6
9	701182	CENTERLOCK FLANGE NUT; 3/8"	9
10	686276	DRAG RUBBER	1



## PARTS DIAGRAM & LIST

### (709900) 4' 6" INTERMEDIATE SECTION

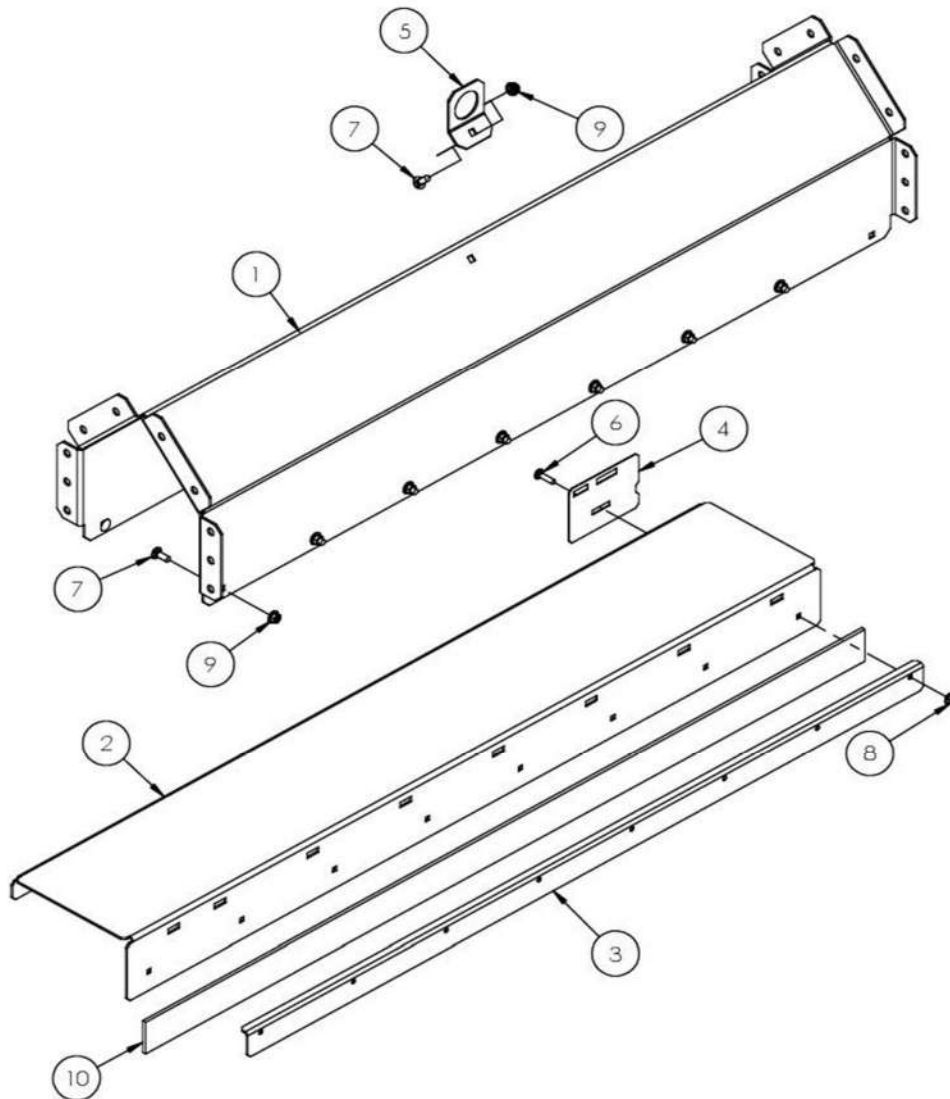
ITEM	PART #	DESCRIPTION	QTY
1	709901	COVER	1
2	709002	DIVIDER	1
3	709903	DRAG RUBBER CLAMP	1
4	709611	SEAM PLATE	1
5	709649	LIFT PLATE	1
6	686183	CARRIAGE BOLT; 5/16" X 1 1/4"	7
7	685998	CARRIAGE BOLT; 3/8" X 1"	13
8	701467	CENTERLOCK FLANGE NUT; 5/16"	7
9	701182	CENTERLOCK FLANGE NUT; 3/8"	13
10	709904	DRAG RUBBER	1



## PARTS DIAGRAM & LIST

### (709566) 5' INTERMEDIATE SECTION

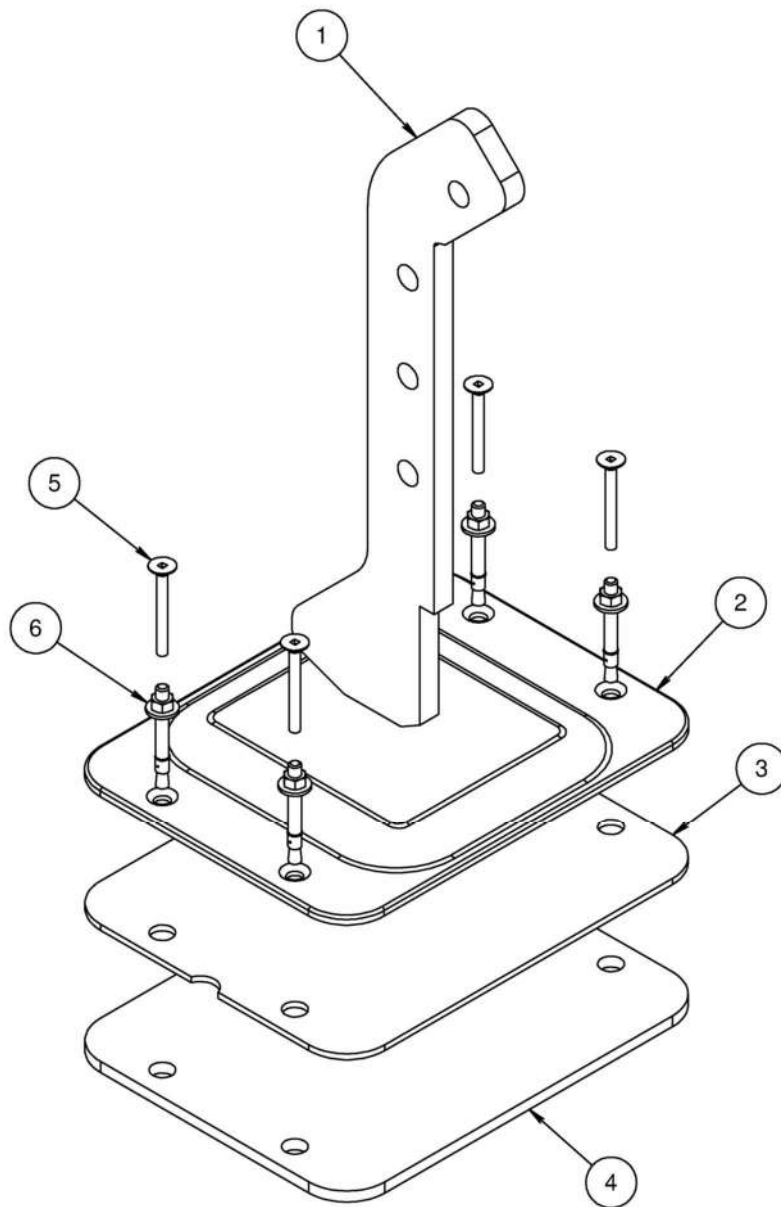
ITEM	PART #	DESCRIPTION	QTY
1	709602	COVER	1
2	709605	DIVIDER	1
3	709608	DRAG RUBBER CLAMP	1
4	709611	SEAM PLATE	1
5	709649	LIFT PLATE	1
6	686183	CARRIAGE BOLT; 5/16" X 1 1/4"	8
7	685998	CARRIAGE BOLT; 3/8" X 1"	15
8	701467	CENTERLOCK FLANGE NUT; 5/16"	8
9	701182	CENTERLOCK FLANGE NUT; 3/8"	15
10	686277	DRAG RUBBER	1



## PARTS DIAGRAM & LIST

### (709569) ZERO ENTRY KIT

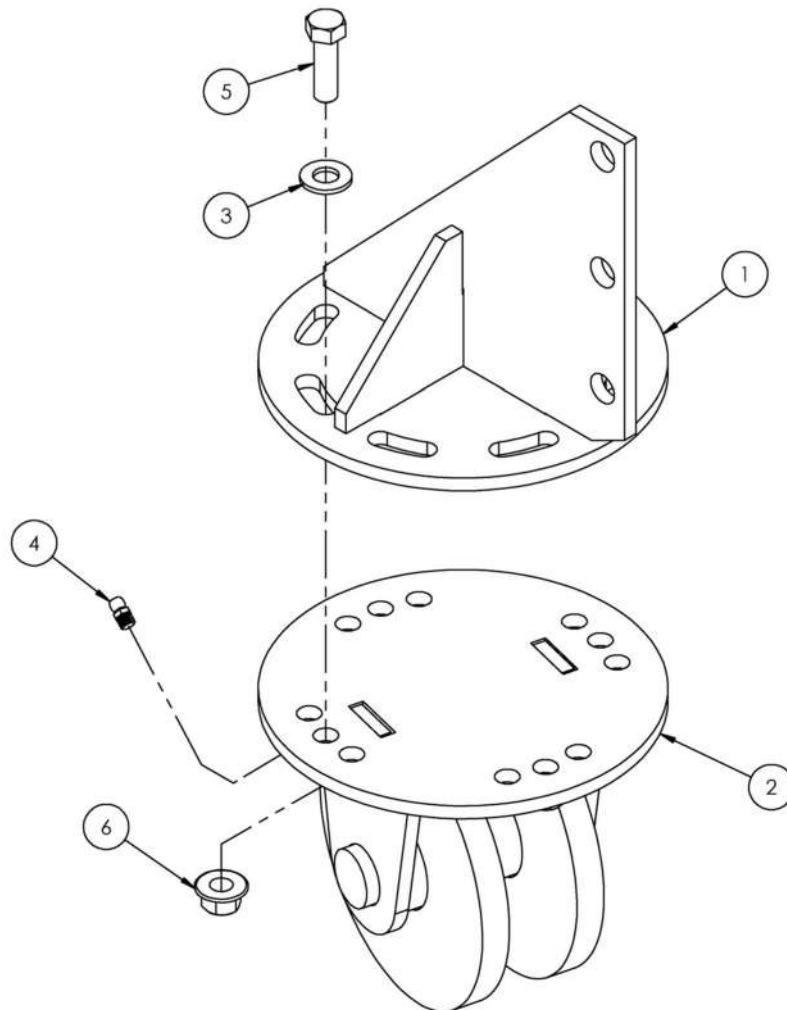
ITEM	PART #	DESCRIPTION	QTY
1	709647	SUPPORT PLATE (ZE)	1
2	702670	SUPPORT PAD	1
3	701329	SHIM; 1/8"	1
4	701347	SHIM; 1/4"	1
	697999	HARDWARE BAG	
5	695702	SQUARE WAFER HEAD SELF DRILLING SCREW; #12-24 X 2" (STEEL)	4
6	695701	WEDGE ANCHOR; 1/4" X 2 1/4" (CONCRETE)	4



## PARTS DIAGRAM & LIST

### (702692) CASTER

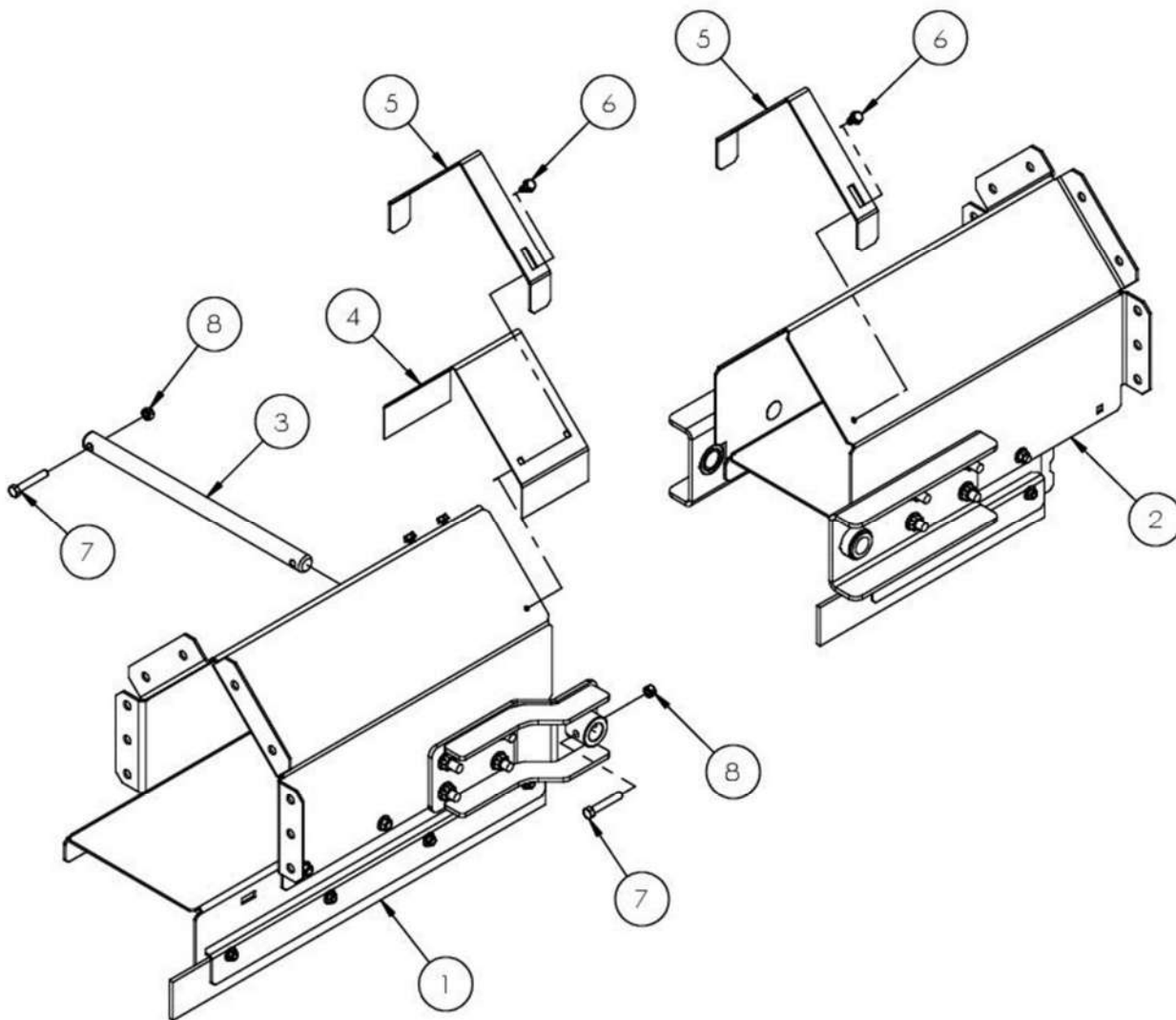
ITEM	PART #	DESCRIPTION	QTY
1	702695	CASTER WHEEL BRACKET	1
2	702696	CASTER WHEEL	1
3	640154	FLATWASHER; 3/8"	4
4	657632	GREASE ZERK	1
5	640032	HH CAP SCREW; 3/8" x 1 1/4"	4
6	682413	SERRATED FLANGE NUT; 3/8"	4



## PARTS DIAGRAM & LIST

### (709571) PIVOT SECTION

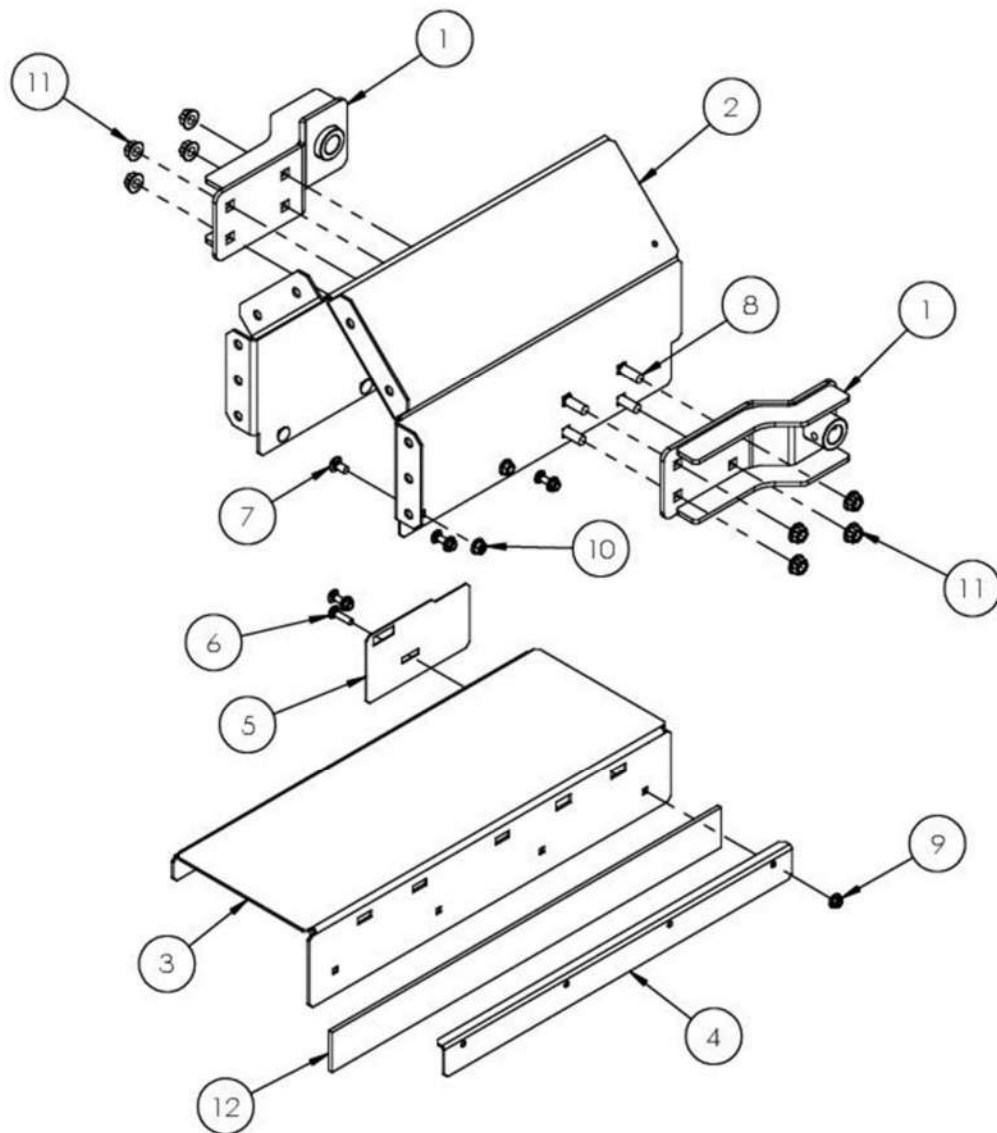
ITEM	PART #	DESCRIPTION	QTY
1	709586	OUTER SECTION	1
2	709587	INNER SECTION	1
3	709628	PIVOT PIN	1
4	686304	RUBBER COVER	1
5	709638	CLAMP PLATE	2
6	709639	HH THREAD FORMING SCREW; 5/16" X 3/4"	4
7	640038	HH CAP SCREW; 3/8" X 2 1/4"	2
8	700560	CENTERLOCK NUT; 3/8"	2



## PARTS DIAGRAM & LIST

### (709586) OUTER PIVOT SECTION

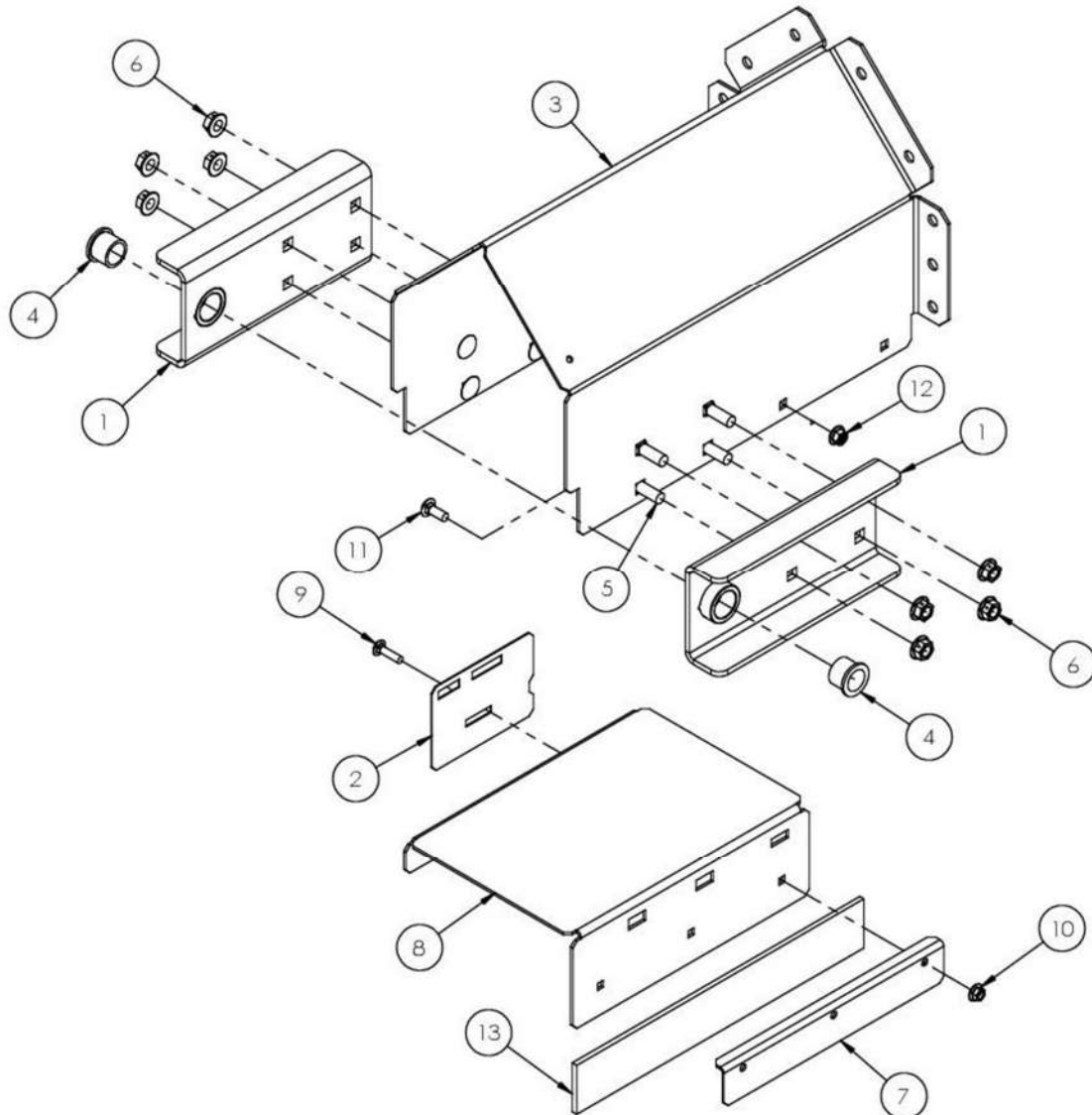
ITEM	PART #	DESCRIPTION	QTY
1	709584	PIVOT BRACKET	2
2	709623	HOOD COVER PLATE	1
3	709642	DIVIDER PLATE	1
4	709620	DRAG RUBBER CLAMP	1
5	709641	SEAM PLATE	1
6	686183	CARRIAGE BOLT; 5/16" X 1 1/4"	4
7	683942	CARRIAGE BOLT; 3/8" X 3/4"	4
8	701181	CARRIAGE BOLT; 1/2" X 1 1/2"	8
9	701467	FLANGE NUT; 5/16"	4
10	701182	FLANGE NUT; 3/8"	4
11	699010	CENTERLOCK FLANGE NUT; 1/2"	8
12	709621	DRAG RUBBER	1



## PARTS DIAGRAM & LIST

### (709587) INNER PIVOT SECTION

ITEM	PART #	DESCRIPTION	QTY
1	709585	INNER PIVOT BRACKET	2
2	709611	SEAM PLATE	1
3	709623	HOOD COVER PLATE	1
4	709635	FLANGED SLEEVE BEARING	2
5	701181	CARRIAGE BOLT; 1/2" X 1 1/2"	8
6	699010	CENTERLOCK FLANGE NUT; 1/2"	8
7	709906	DRAG RUBBER CLAMP	1
8	709907	DIVIDER PLATE	1
9	686183	CARRIAGE BOLT; 5/16" X 1 1/4"	3
10	701467	FLANGE NUT; 5/16"	3
11	685998	CARRIAGE BOLT; 3/8" X 1"	2
12	701182	FLANGE NUT; 3/8"	2
13	709640	DRAG RUBBER	1



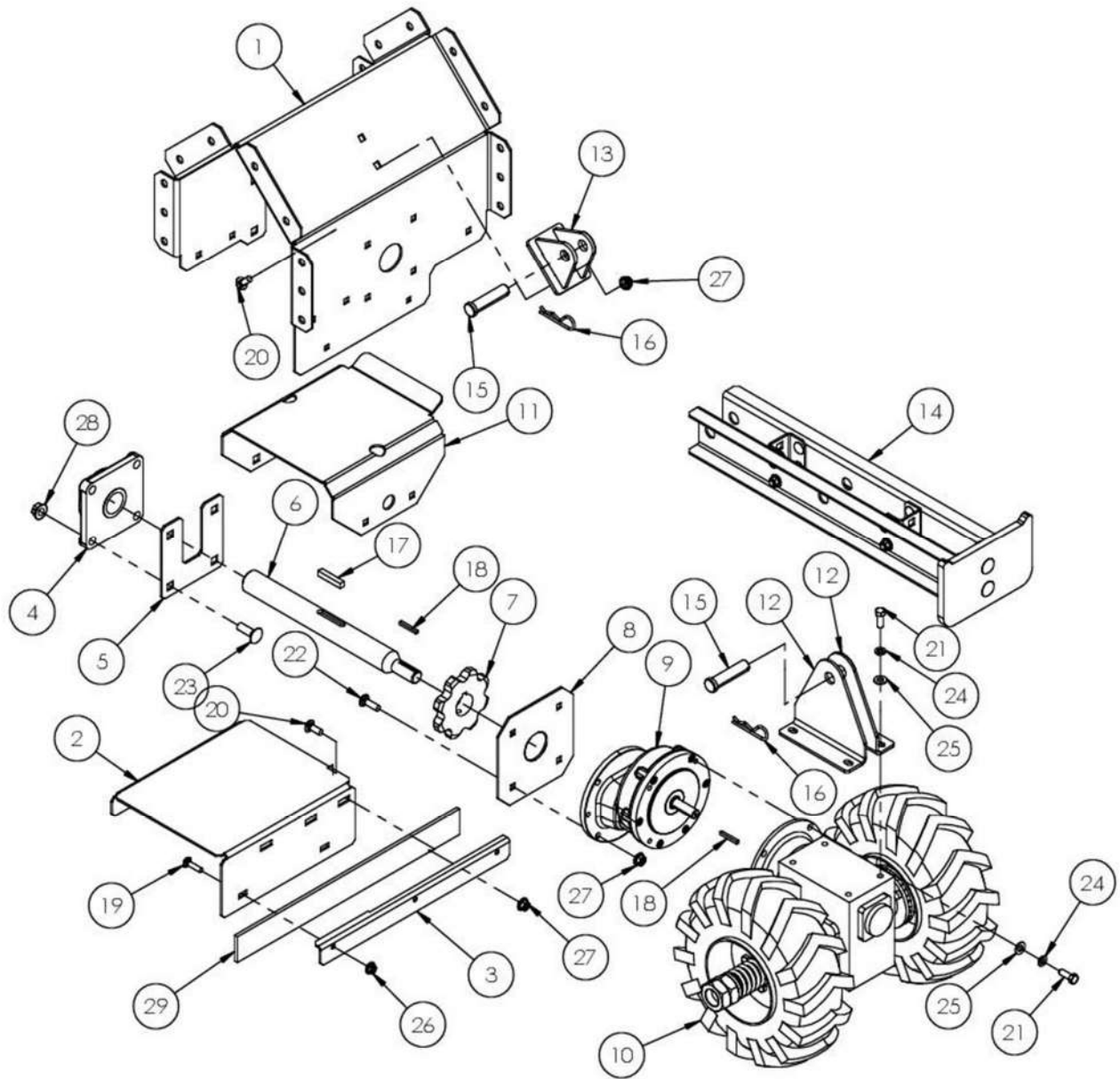


## DRIVE SECTION

DRIVE SECTION			
ITEM	PART #	DESCRIPTION	QTY
1	709856	HOOD COVER PLATE	1
2	709857	DIVIDER PLATE	1
3	709858	DRAG RUBBER CLAMP	1
4	684864	FLANGE BEARING	1
5	709726	FLANGE BEARING OUTER PLATE	1
6	709860	SHAFT	1
7	686248	SPROCKET; 8 TOOTH	1
8	709862	MOUNT PLATE	1
9	709861	MULTIPLIER	1
10	709864	TRACTOR DRIVE ASSEMBLY; 30:1	1
	709869	TRACTOR DRIVE ASSEMBLY; 40:1	1
	709879	TRACTOR DRIVE ASSEMBLY; 60:1	1
11	711162	CHAIN HOLD DOWN PLATE	1
12	709859	PIN BRACKET PLATE	2
13	709776	WEIGHT BRACKET (WELDMENT)	1
14	709579	WEIGHT BRACKET (ASSEMBLY)	1
15	709789	CLEVIS PIN	2
16	680142	#9 PIN CLIP	2
17	686985	KEY; 3/8" X 2"	1
18	686026	KEY; 3/16" X 1 1/2"	2
19	686183	CARRIAGE BOLT; 5/16" X 1 1/4"	3
20	685998	CARRIAGE BOLT; 3/8" X 1"	6
21	640028	HH CAP SCREW; 3/8" X 1"	9
22	685999	CARRIAGE BOLT; 3/8" X 1 1/4"	4
23	651467	CARRIAGE BOLT; 1/2" X 1 1/2"	4
24	640154	FLATWASHER; 3/8"	8
25	640153	LOCKWASHER; 3/8"	8
26	701467	FLANGE NUT; 5/16"	3
27	701182	FLANGE NUT; 3/8"	10
28	699010	CENTERLOCK FLANGE NUT; 1/2"	4
29	709905	DRAG RUBBER	1

## PARTS DIAGRAM & LIST

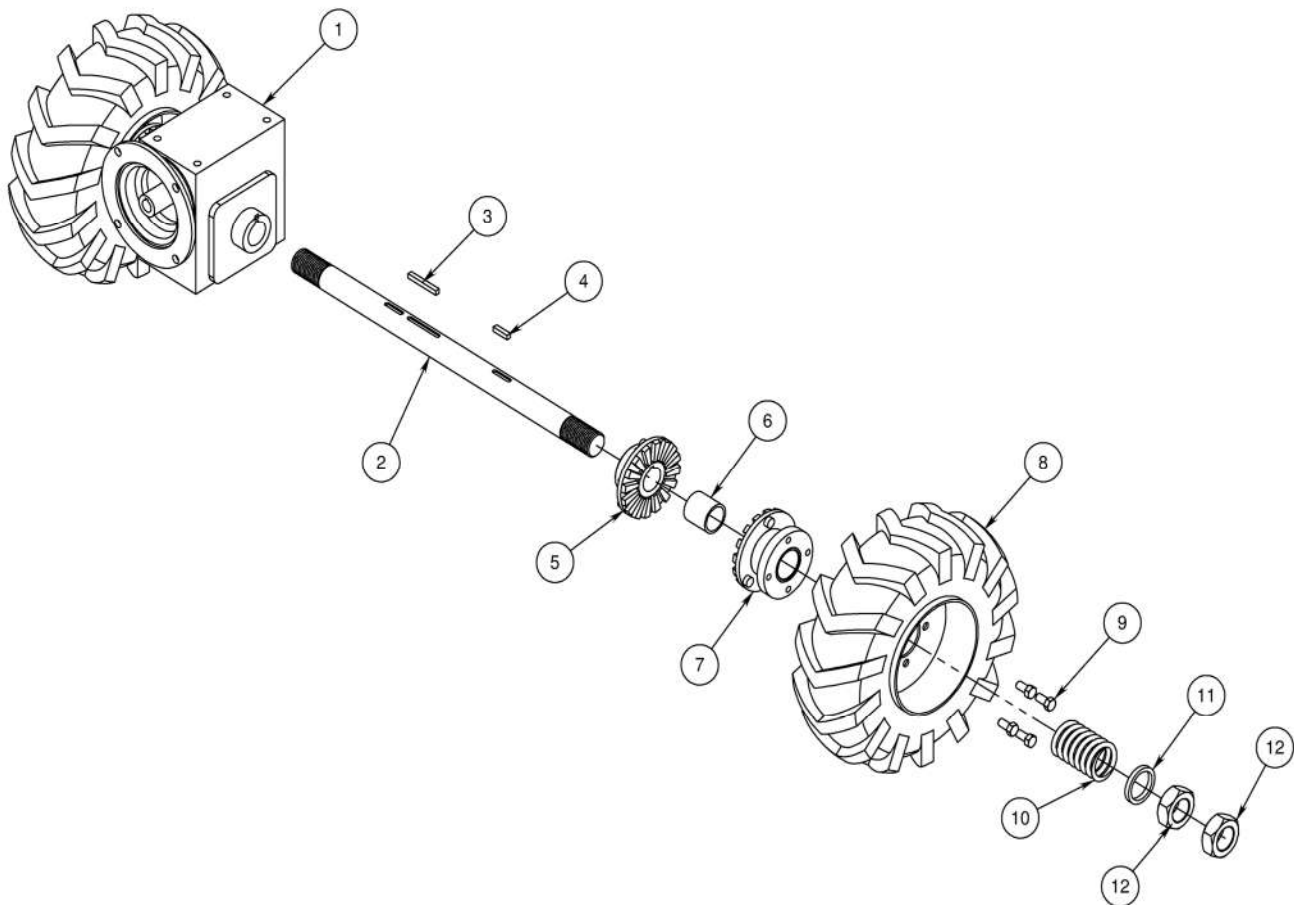
### DRIVE SECTION



## PARTS DIAGRAM & LIST

### TRACTOR DRIVE (W/RATCHETS)

ITEM	PART #	DESCRIPTION	QTY
1	709863	GEARBOX; 30:1	1
	709868	GEARBOX; 40:1	1
	709878	GEARBOX; 60:1	1
2	690039	DRIVE AXLE SHAFT	1
3	686027	KEY; 1/4" x 2"	1
4	161288	KEY; 1/4" x 1"	2
5	690040	INNER RATCHET JAW	2
6	690046	SLEEVE BUSHING	2
7	690041	OUTER RATCHET JAW	2
8	686025	TIRE	2
9	640025	HH CAP SCREW; 3/8" X 3/4"	8
10	690102	CLUTCH SPRING	2
11	690103	PIPE WASHER	2
12	690043	JAMNUT; 1 1/4"	4



## PARTS DIAGRAM & LIST

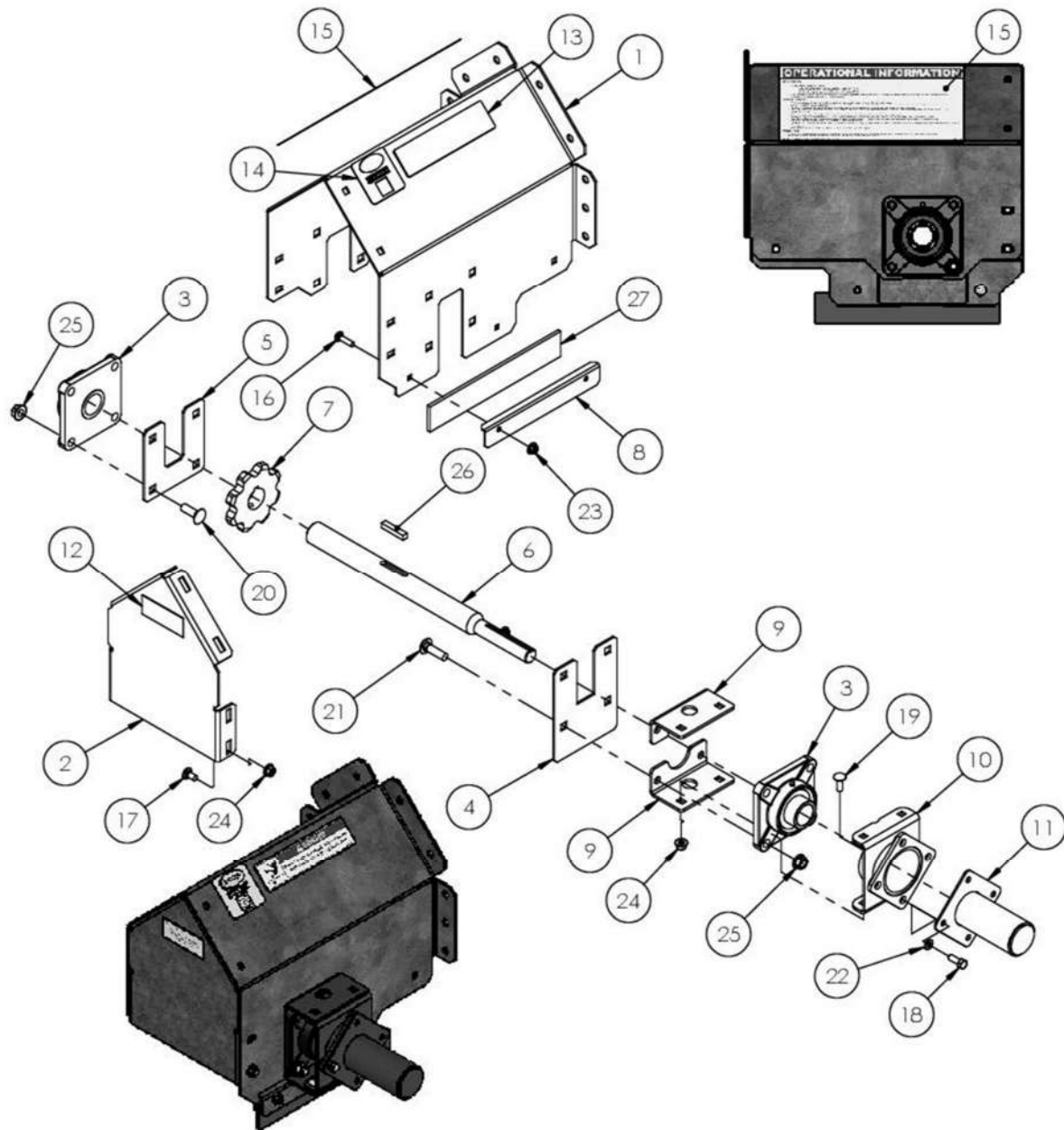
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### END SECTION

ITEM	PART #	DESCRIPTION	QTY
1	709881	HOOD COVER PLATE	1
2	709759	END PLATE	1
3	684864	FLANGE BEARING	2
4	709725	FLANGE BEARING MOUNT PLATE	1
5	709726	OUTER FLANGE BEARING MOUNT PLATE	1
6	709882	SHAFT	1
7	686248	SPROCKET; 8 TOOTH	1
8	709883	DRAG RUBBER CLAMP PLATE	1
9	709884	MOUNTING BRACKET PLATE	2
10	709886	MOUNT BRACKET	1
11	709871	BOOT COVER	1
12	666941	SERIAL NUMBER DECAL	1
13	686033	DANGER DECAL	1
14	704991	VIRTUAL PATENT DECAL	1
15	690344	OPERATIONS DECAL	1
16	686183	CARRIAGE BOLT; 5/16" X 1 1/4"	2
17	683942	CARRIAGE BOLT; 3/8" X 3/4"	8
18	640028	HH CAP SCREW; 13/8" X 1"	4
19	640030	CARRIAGE BOLT; 3/8" X 1"	4
20	651467	CARRIAGE BOLT; 1/2" X 1 1/2"	4
21	700638	CARRIAGE BOLT; 1/2" X 1 3/4"	4
22	640153	LOCKWASHER; 3/8"	4
23	701467	FLANGE NUT; 5/16"	2
24	701182	FLANGE NUT; 3/8"	12
25	699010	CENTERLOCK FLANGE NUT; 1/2"	8
26	686985	KEY; 3/8" X 2"	1
27	709877	DRAG RUBBER	1

## PARTS DIAGRAM & LIST

### END SECTION



## PARTS DIAGRAM & LIST

### (690121) Tripod Lift for Sweep Assembly (500 lb. maximum capacity)

ITEM	PART #	DESCRIPTION	QTY
1	641119	LOCK PIN	6
2	681287	SWIVEL CASTER	3
3	690122	TOP MOUNT	1
4	690127	BOTTOM LEG	3
5	690128	TOP LEG	3
6	640028	HH CAP SCREW; 3/8" X 1"	12
7	682413	FLANGE NUT; 3/8"	12
8	640671	HITCH PIN	6
9	690179	DECAL—MAXIMUM CAPACITY	3

