

OWNER'S MANUAL

TK4300 Drop Spreader 3 point and 2" receiver mounts

Please read and save these instructions
For safety, read all safety and operating instructions prior to using machine

Safety

Read Safety in Machine Operator's Manual

Read the general safety operating precautions in your machine operator's manual for additional safety information.

Operating Safely

- Read the machine and attachment operator's manual carefully. Be thoroughly familiar with the controls and the proper use of the equipment. Know how to stop the machine and disengage the controls quickly.
- Do not modify machine or safety devices. Unauthorized modifications to the machine or attachment may impair its function and safety.
- Do not let children or an untrained person operate machine.
- Make any necessary adjustments before you operate. Never attempt to make any adjustments while the engine is running, unless if recommended in adjustment procedure.
- Look behind machine before you back up. Back up carefully.
- Do not let anyone, especially children, ride on machine or attachment. Riders are subject to injury such as being struck by foreign objects and being thrown off. Riders may also obstruct the operator's view, resulting in the machine being operated in an unsafe manner.
- Disengage any power to the attachment when the machine is transported or not in use.
- Never exceed 15 mph when loaded spreader is attached to vehicle. Braking distances may be reduced and handling characteristics may be impaired at speeds above 15 mph.
- Never use wet materials or materials with foreign debris in the spreader. This unit is designed to spread dry, clean, free-flowing material.
- Never leave material in hopper when not in use.

Practice Safe Maintenance

- Only qualified, trained adults should service this machine.
- Understand service procedure before doing work. Keep area clean and dry.
- Do not operate the engine in a confined space where dangerous carbon monoxide fumes can collect.
- Never lubricate, service or adjust the machine or attachment while it is moving. Keep safety devices in place and in working condition. Keep hardware tight.
- Keep hands, feet, clothing, jewelry, and long hair away from any moving parts, to prevent them from getting caught.
- Lower any attachment completely to the ground or to an existing attachment mechanical stop before servicing the attachment. Disengage all power and stop the engine. Lock park brake and remove the key. Let machine cool.
- Disconnect battery or remove spark plug wire (for gasoline engines) before making any repairs.
- Before servicing machine or attachment, carefully release pressure from any components with stored energy, such as hydraulic components and springs.
- Release hydraulic pressure by lowering attachment or cutting units to the ground or to a mechanical stop and move hydraulic control levers.
- Securely support any machine or attachment elements that must be raised for service work. Use jack stands or lock service latches to support components when needed.
- Never run engine unless park brake is locked.
- Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts. Replace all worn or damaged safety and instruction decals.

• Check all hardware at frequent intervals to be sure the equipment is in safe working condition.

• Do not modify machine or safety devices. Unauthorized modifications to the machine or attachment may impair its function and safety.

Wear Appropriate Clothing



- Always wear eye protection when operating the machine.
- Wear close fitting clothing and safety equipment appropriate for the job.
- Wear a suitable protective device such as earplugs. Loud noise can cause impairment or loss of hearing.

Read Chemical Container Label

- Chemicals can be dangerous. Improper selection or use can injure persons, animals, plants, soils or other property. Select the right chemical for the job and handle and apply with care.
- Read the instructions, precautions, and warnings on the container label before opening. Use the product strictly according to label directions for specific applications, in the amounts specified, at the times specified and only when needed.
- Keep the container closed tightly except when preparing the mix.
- Do not remove labels from chemical containers. Store all chemicals in their original containers.
- Do not mix chemicals unless stated on the container label.
- Store chemicals when not in use according to the container label.

Handle Chemical Products Safely

- Direct exposure to hazardous chemicals can cause serious injury. Potentially hazardous chemicals used with equipment include pesticides, herbicides and fungicides.
- A Material Safety Data Sheet (MSDS) provides specific details on chemical products: physical and health hazards, safety procedures, and emergency response techniques.
- The MSDS should be obtained from the chemical dealer at the time of the chemical purchase.
- Check the MSDS before beginning any job using a hazardous chemical. Know exactly what the risks are and how to do the job safely. Always wear recommended personal protection equipment.

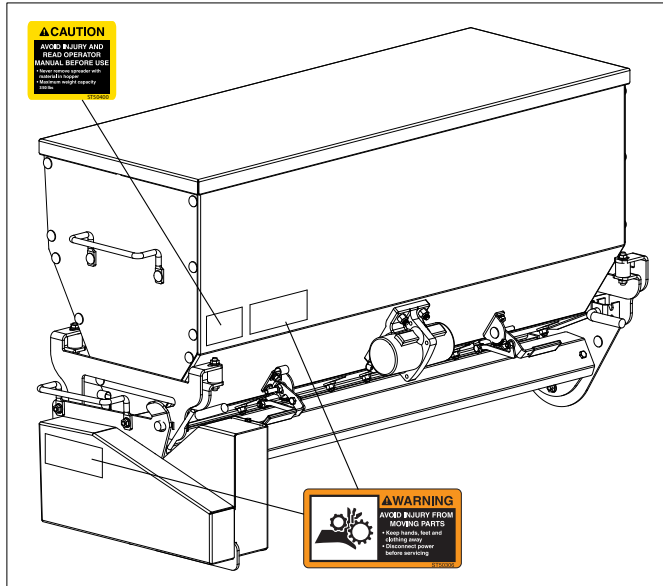
Handling Waste Product and Chemicals

Waste products, such as, used oil, fuel, coolant, brake fluid, and batteries, can harm the environment and people:

- Do not use beverage containers for waste fluids - someone may drink from them.
- See your local Recycling Center or authorized dealer to learn how to recycle or get rid of waste products.
- A Material Safety Data Sheet (MSDS) provides specific details on chemical products: physical and health hazards, safety procedures, and emergency response techniques. The seller of the chemical products used with your machine is responsible for providing the MSDS for that product.

Safety Labels

Safety Label Location



Understanding The Machine Safety Labels

The machine safety labels shown in this section are placed in important areas on your machine to draw attention to potential safety hazards.

On your machine safety labels, the words DANGER, WARNING, and CAUTION are used with this safety alert symbol. DANGER identifies the most serious hazards.

The operator's manual also explains any potential safety hazards whenever necessary in special safety messages that are identified with the word, CAUTION, and the safety-alert symbol.

There can be additional safety information contained on parts and components sourced from suppliers that is not reproduced in this operator's manual.

⚠ CAUTION

AVOID INJURY AND READ OPERATOR MANUAL BEFORE USE

- Never remove spreader with material in hopper
- Maximum weight capacity 350 lbs

ST50400

⚠ WARNING

AVOID INJURY FROM MOVING PARTS

- Keep hands, feet and clothing away
- Disconnect power before servicing

ST50306

Label on 2 in hitch receiver

⚠ CAUTION

Vehicle hitch must be capable of supporting 540 lbs (245 kg). Proper front vehicle weight must be installed to maintain steering control of vehicle. Any alterations to this hitch are prohibited.

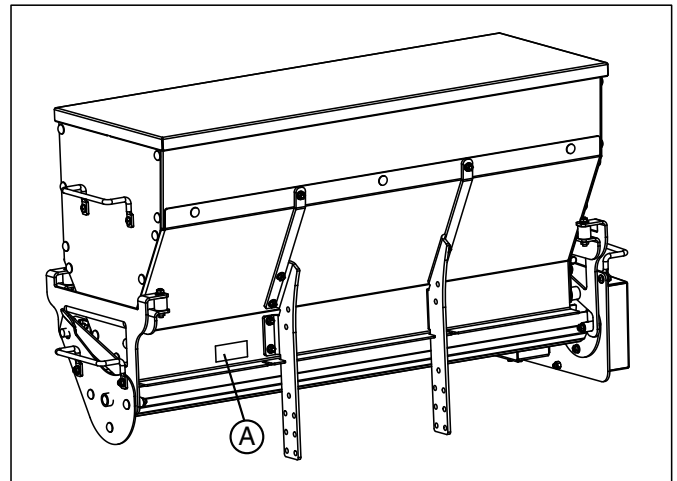
ST50491

Parts in Kit

Qty.	Description
1	Spreader (completely assembled with 2" receiver or 3 point hitch)

Wiring Kit

Qty.	Description
1	Control Box
1	Battery Harness
1	Extension Harness
1	Spreader Harness
	Wire Ties



The serial number label (A) is located on the lower front right side as shown above.

Machine Requirements

2" Receiver

Maximum drop spreader weight is 540 lbs. **Vehicle's receiver hitch must be rated accordingly to prevent damage to vehicle and drop spreader.**

3 Point Hitch

Requires category 1 three point hitch. If no front attachment is installed on vehicle, ballast may be required to stabilize vehicle. Refer to vehicle manual for proper ballasting.

Installing

Mount the spreader to the 3 point hitch or 2" receiver. Use the grab handles located on the hopper side panels to lift into 2" receiver. **It is recommended 2 people do this installation.**

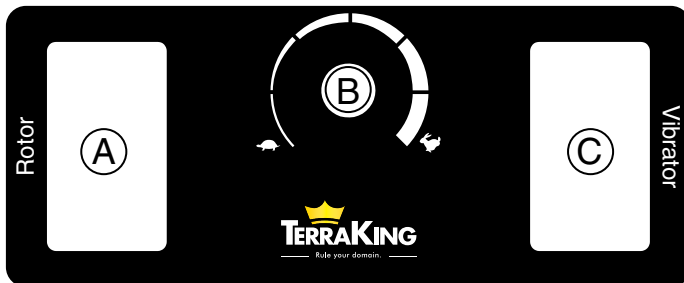
Connect the ring terminals on the battery harness to the battery (red positive, black negative).

Mount control box in a place convenient to operator. Four #6-32 screws on bottom of control box can be used for mounting.

Connect two wire extension from battery harness to control box. Connect four wire extension from control box to spreader.

Operation

Before operating the spreader, it is recommended to lubricate the chain. See page 5, "Adjusting Chain Tension" for instructions on accessing the chain.



Switch (A) controls the motor to start and stop the material flow. Allow motor two seconds to ramp up to speed changes or on/off inputs.

Knob (B) controls the speed of the rotor and material application rate. Turn clockwise to increase rotor RPM, counter-clockwise to decrease rotor RPM.

Switch (C) controls the vibrator to prevent bridging and keep the material flowing faster and more evenly.

Calibration

For proper application of the desired material the drop spreader must be calibrated. A suitable container is required to catch the material falling from the drop spreader. Park the vehicle on a flat surface and engage parking brake. Ensure that all wiring is plugged and test auger speed and vibration functions. Turn off the spreader. Never make adjustments to the spreader while it is operating. Place the gate in the middle position to begin (see Metering Gate Adjustment at right). Place container under the drop spreader. Fill the spreader with the desired material enough to cover the auger and lower portion of the spreader. Turn the speed control knob to the desired position. Turn on the spreader and observe the spreading of the material. Turn off spreader and dump spread material back into the hopper. Adjust the gate position or auger speed to achieve desired material flow rate.

If the material is bridging in the hopper or not spreading smoothly, test again with the addition of vibration. The vibration will cause the material to flow better from the hopper to the auger as well as spread more evenly. The vibrator may also cause an increase in material flow rate. To calculate application rate.

Determine the vehicle speed that will be used.

Place the container on a scale and make note of the weight or tare the scale.

Measure the weight / mass of the material spread in 30 seconds. Subtract the weight / mass of the container.

Divide lbs measured in 30 seconds by the intended speed of the vehicle in mph, and multiply by 6.31 to get lbs per 1000 ft².

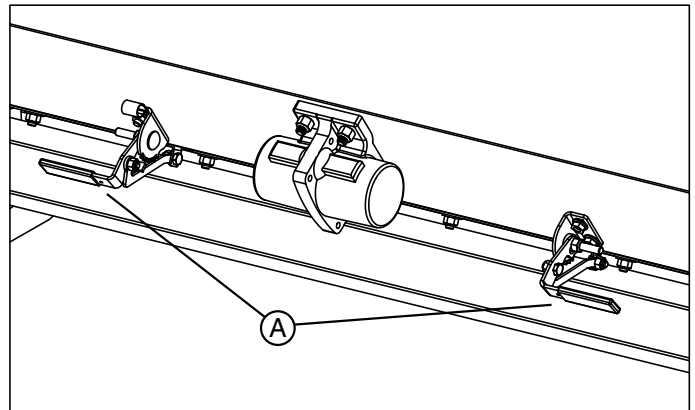
Divide kg measured in 30 seconds by the intended speed of the vehicle in kmph, and multiply by 3.65 to get kg per 100 m².

$$\frac{\text{lbs per 30 seconds}}{\text{intended vehicle speed in mph}} \times 6.31 = \frac{\text{lbs}}{1000 \text{ ft}^2}$$

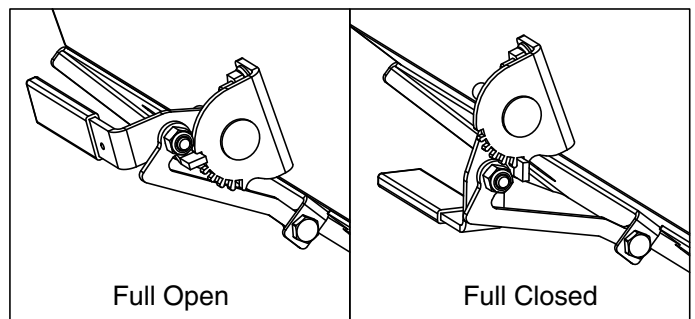
or

$$\frac{\text{kg per 30 seconds}}{\text{intended vehicle speed in kmph}} \times 3.65 = \frac{\text{kg}}{100 \text{ m}^2}$$

Metering Gate Adjustment



To adjust the opening on the metering gate, pull both levers (A) out, rotate to desired opening and push the levers into the appropriate slot. Be sure both are in the same position. There are 6 gate positions, each position increments the gate by approximately 1/4".



Maintenance

Before performing any maintenance, follow these steps:

1. Stop machine on a level surface
2. **Turn off the control box**
3. Lock the park brake
4. Stop the engine
5. Remove the key
6. Wait for engine and all moving parts to stop before you leave the operator's seat

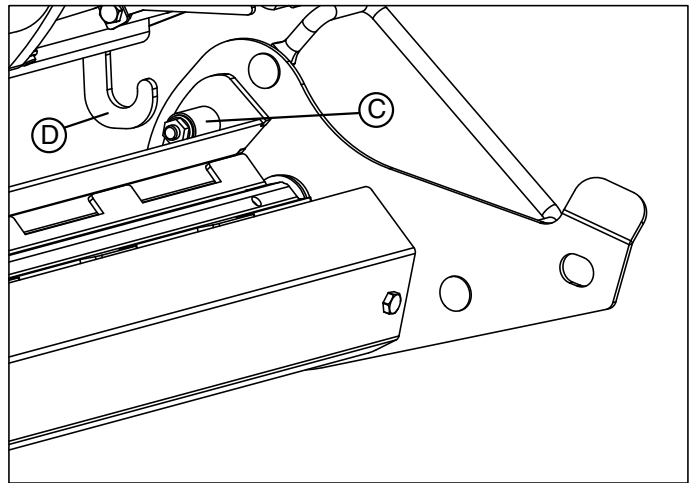
Cleaning rotor

The TK4300 features a removable rotor tray. To clean or service the rotor, remove the rotor tray.



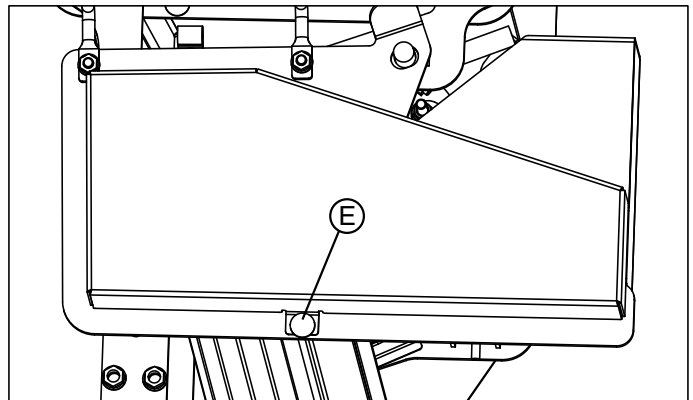
NOTE: it is recommended two people remove the rotor assembly

1. Disconnect the power cord (A) to the drive motor.
2. Lock out the pins (B) on both sides of the machine. When the second pin is pulled, the rear of the tray will drop.

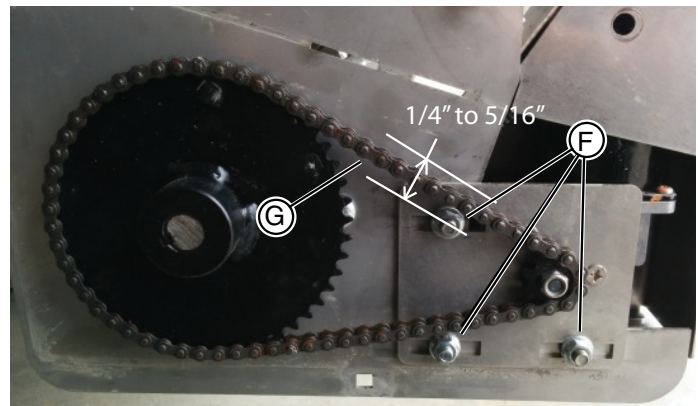


3. Lift pivot bolts (C) off the hooks (D) and the rotor can be removed for cleaning. (Left side shown above)

Adjusting Chain Tension



1. Remove bolt (E) and lift bottom of shield until it is rotated approximately 90° and pull out.



2. Loosen three bolts (F) and slide the motor mount plate rearward. The slackside (G) tension should be 1/4\" to 5/16\" (6mm to 8mm) of midspan movement. Retighten three bolts.

Chain Lubrication

- Schedule chain lubrication:
- Apply lubrication upon removal from storage
 - Reapply lubrication every 20 hours of use
 - Apply lubrication prior to storage

Cleaning and Storing

To protect from corrosion, clean spreader after every use with warm water and mild detergent.

Do not leave material in the spreader.

Warranty

TerraKing’s products are guaranteed to be free from defects in material and workmanship from the date of purchase for **two years**, provided that purchaser properly assembles, installs, uses and maintains the product in accordance with this operators manual. Purchaser’s failure to adhere to such requirements will void the warranty. To the extent permitted by applicable law, all other warranties, representations, obligations and conditions, expressed or implied, including but not limited to implied warranties of merchantability, fitness for any particular purpose and non-infringement, are hereby disclaimed and excluded. Any product which does not meet warranty shall, as purchaser’s sole and exclusive remedy, be repaired or replaced by TerraKing. This warranty is not transferrable. In addition, our warranty does not cover:

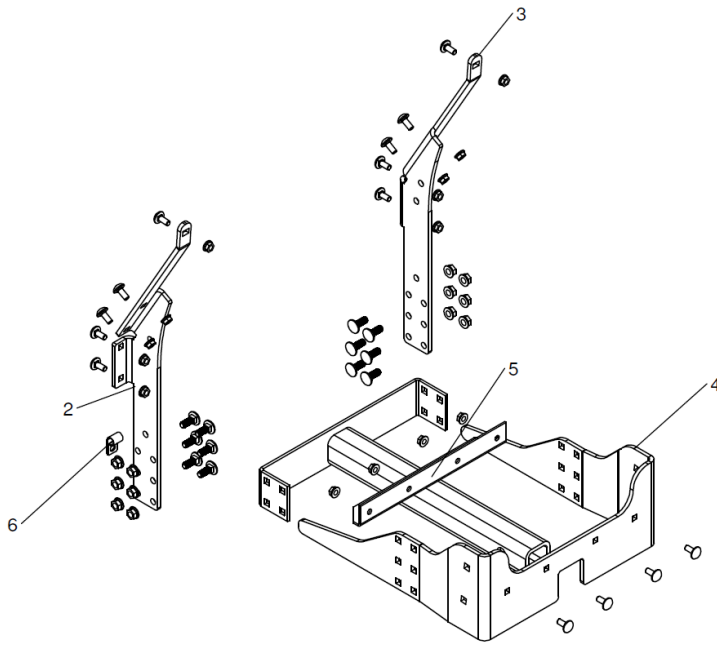
- Labor charges
- Loss or consequential, incidental or special damages of any kind or character

TerraKing reserves the right to request photos or return of damaged/defective parts. Please have a copy of the original purchase order, receipt and serial number to submit the claim. All warranty parts must be supplied by TerraKing and we will not reimburse for parts purchased from other suppliers.

Specifications

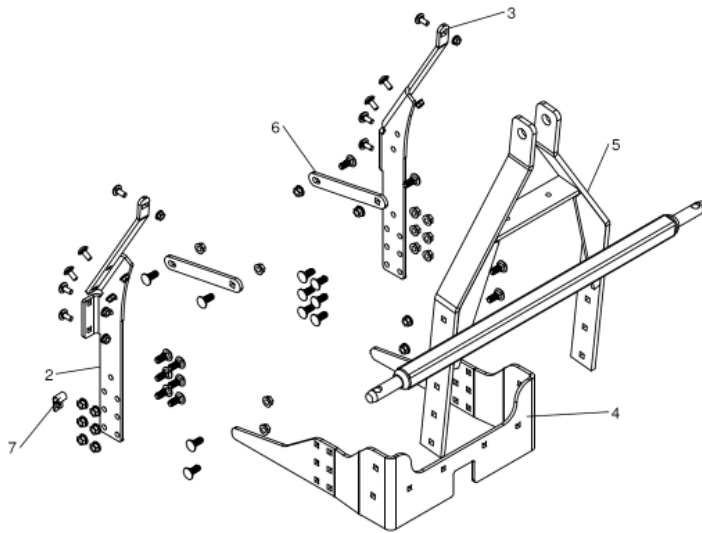
Volume.....	5 cu ft (.14 cu m)
Material Capacity.....	350 lbs (159 kg)
Weight (empty, 3 point).....	191 lbs (87 kg)
Weight (empty, 2” receiver).....	180 lbs (82 kg)
Weight (maximum, full).....	540 lbs (245 kg)
Weight of rotor tray.....	48 lbs (22 kg)
Width.....	49 in (125 cm)
Depth (3 point).....	25 in (64 cm)
Depth (2” receiver).....	31 in (79 cm)
Height.....	28 in (71 cm)
Spreading Width.....	43 in (109 cm)
Rotor speed.....	1.3 to 6 RPM
Electrical.....	12 volt
Warranty.....	2 years

2" Receiver Parts



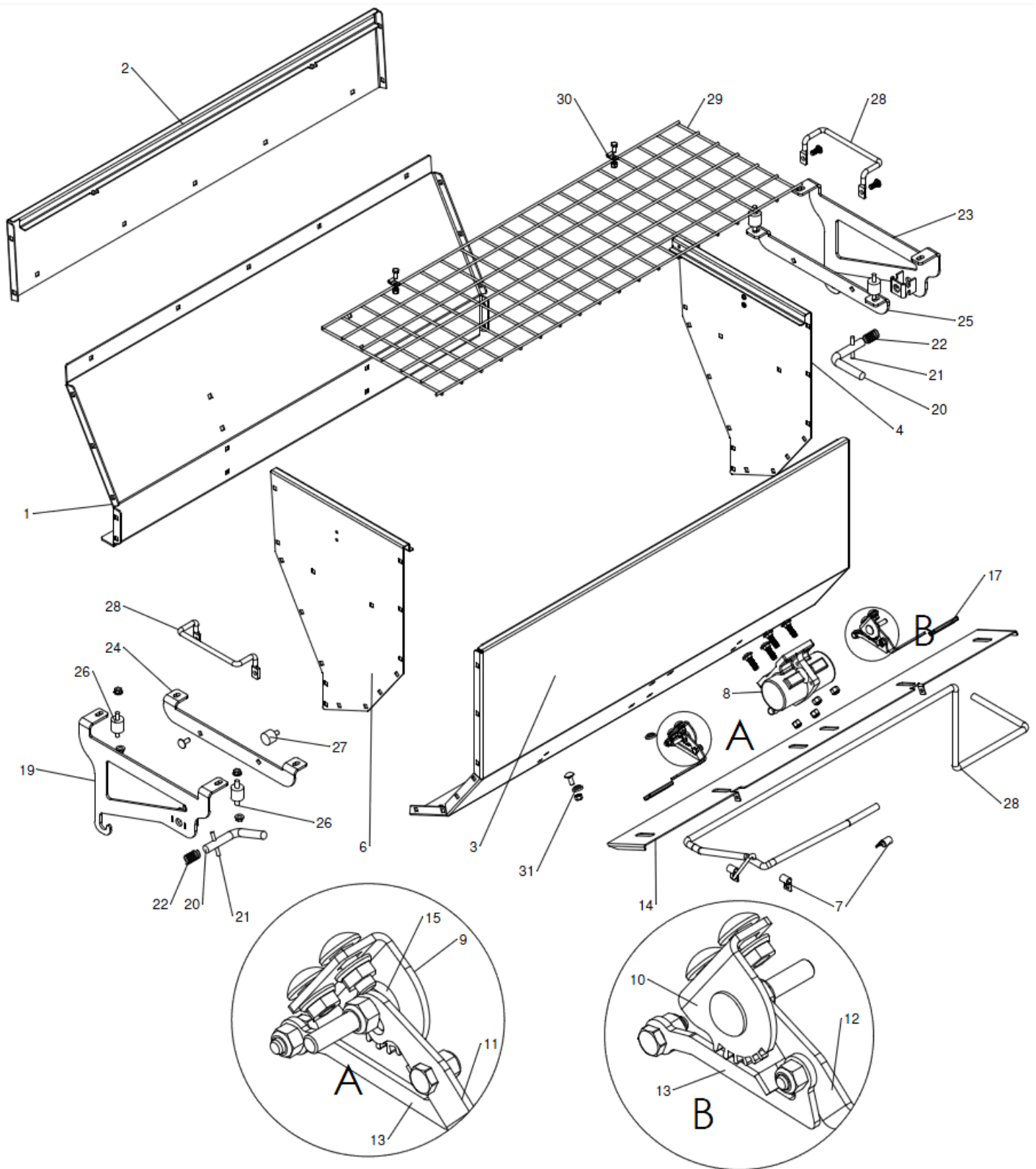
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	ST50483	Drop Spreader	1
2	ST50454	Leg, Frame	1
	ST65122	Bolt, 5/16" x 3/4" Carriage S.S.	5
	ST65124	Nut, 5/16" Flange S.S.	5
3	ST50455	Leg, Frame	1
	ST65122	Bolt, 5/16" x 3/4" Carriage S.S.	5
	ST65124	Nut, 5/16" Flange S.S.	5
4	ST50456	Base	1
	ST65136	Bolt, 3/8" x 1" Carriage S.S.	12
	ST65126	Nut, 3/8" Flange S.S.	12
5	ST50476	2" Receiver Assembly	1
	ST65122	Bolt, 5/16" x 3/4" Carriage S.S.	4
	ST65124	Nut, 5/16" Flange S.S.	4
6	ST50468	Clamp, 1/2"ID x .75W Vinyl Coated	1

3 point Hitch Parts



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	ST50483	Drop Spreader	1
2	ST50454	Leg, Frame	1
	ST65122	Bolt, 5/16" x 3/4" Carriage S.S.	5
	ST65124	Nut, 5/16" Flange S.S.	5
3	ST50455	Leg, Frame	1
	ST65122	Bolt, 5/16" x 3/4" Carriage S.S.	5
	ST65124	Nut, 5/16" Flange S.S.	5
4	ST50456	Base	1
	ST65136	Bolt, 3/8" x 1" Carriage S.S.	12
	ST65126	Nut, 3/8" Flange S.S.	12
5	ST61500	3 Point Hitch A Frame	1
	ST65136	Bolt, 3/8" x 1" Carriage S.S.	4
	ST65126	Nut, 3/8" Flange S.S.	4
6	ST50464	3Pt Hitch Brace	2
	ST65136	Bolt, 3/8" x 1" Carriage S.S.	4
	ST65126	Nut, 3/8" Flange S.S.	4
7	ST50468	Clamp, 1/2"ID x .75W Vinyl Coated	1

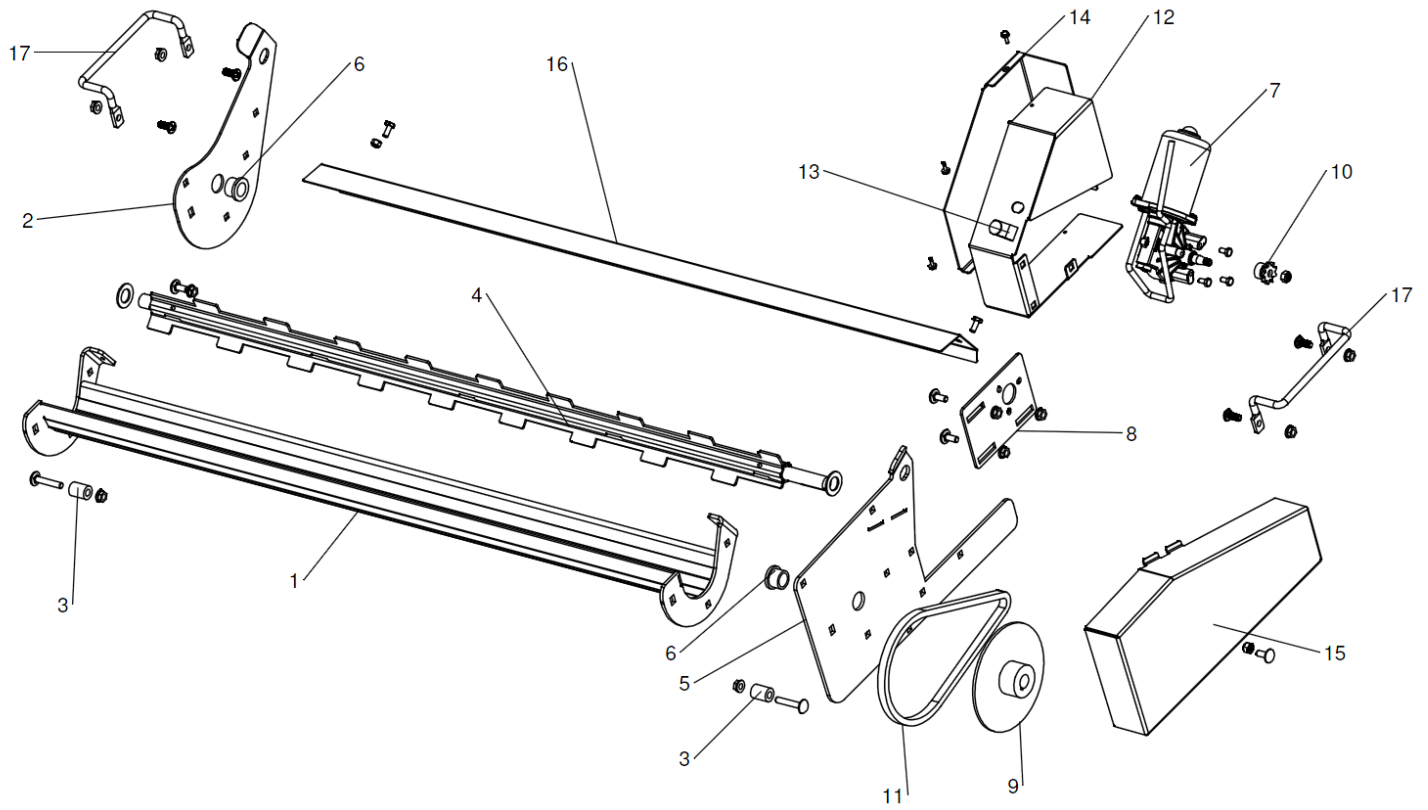
Hopper Parts



Hopper Parts List

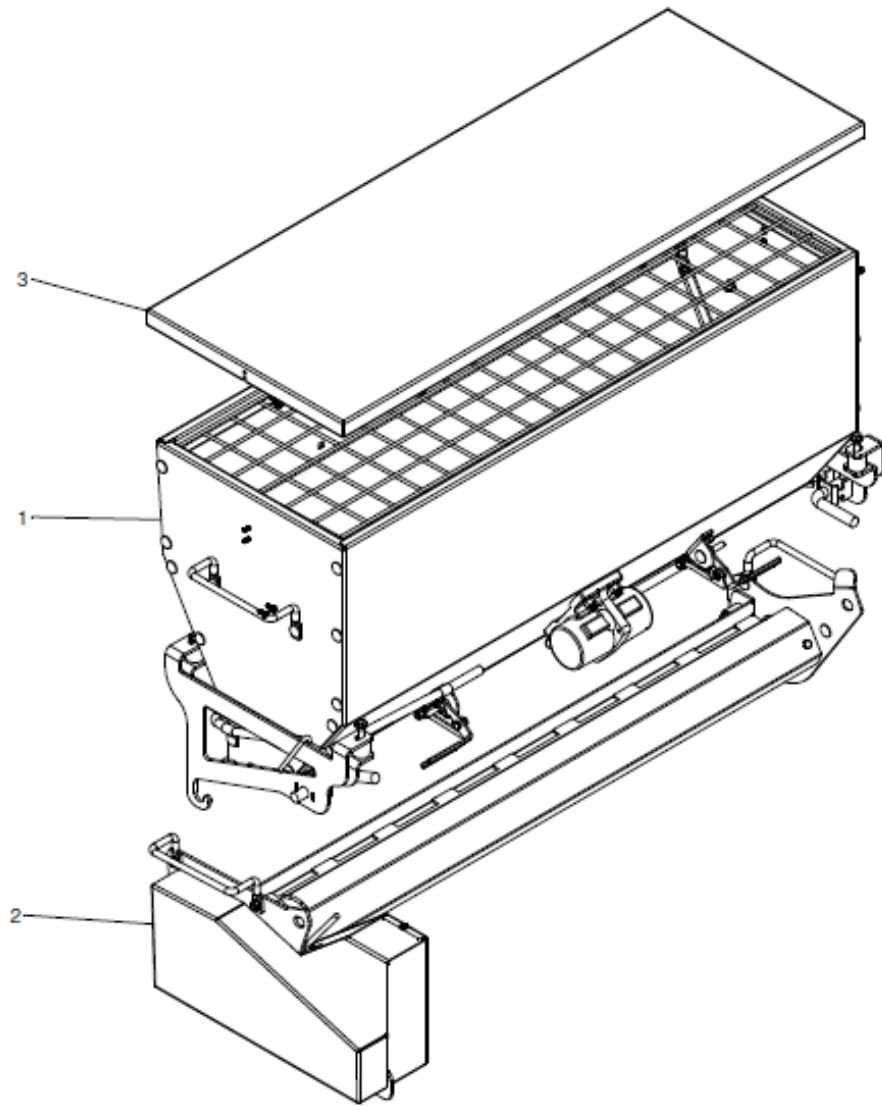
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	ST50411	Wall, Front Lower Hopper	1
	ST65121	Bolt, 5/16" x 1/2" Short Neck Carriage S.S	3
	ST65124	Nut, 5/16" Flange S.S.	3
2	ST50410	Wall, Front Upper Hopper	1
3	ST50412	Wall, Back Hopper	1
4	ST50409	Wall, Right Hopper	1
	ST65121	Bolt, 5/16" x 1/2" Short Neck Carriage S.S	11
	ST65122	Bolt, 5/16" x 3/4" Carriage S.S.	2
	ST65124	Nut, 5/16" Flange S.S.	13
5	ST50451	Latch, Rubber Lid (Not Shown)	2
	ST65130	Screw, #10-24 1/2" #2 Phil. Pan Head S.S.	6
6	ST50408	Wall, Left Hopper	1
	ST65121	Bolt, 5/16" x 1/2" Short Neck Carriage S.S	11
	ST65122	Bolt, 5/16" x 3/4" Carriage S.S.	2
	ST65124	Nut, 5/16" Flange S.S.	13
7	ST50468	Clamp, Vinyl Coated	3
8	ST50422	Vibrator	1
	ST65138	Bolt, 3/8"x 1-1/4" Hex S.S.	4
	ST65112	Washer, 3/8" S.S Flat	8
	ST65127	Nut, 3/8" Nylock S.S.	4
9	ST50439	Selector, Gate Position	1
10	ST50440	Selector, Gate Position	1
11	ST50441	Handle, Gate Position	1
12	ST50442	Handle, Gate Position	1
13	ST50438	Linkage, Gate	2
14	ST50437	Gate, Flow Control	1
	ST65124	Nut, 5/16" Flange S.S.	4
	ST65122	Bolt, 5/16" x 3/4" Carriage S.S.	1
	ST65121	Bolt, 5/16" x 1/2" Short Neck Carriage S.S	3
	ST65123	Bolt, 5/16" x 1-3/4" Carriage S.S.	2
	ST65099	Nut, 5/16"-18 Nylock S.S.	2
	ST65120	Bolt, 1/4"-20 x 5/8" Hex S.S.	4
	ST65115	Nut, 1/4"-20 Nylock S.S.	4
15	ST48176	Plastic Spacer	2
16	ST50449	Spring, Latch Tension (Not Shown)	2
17	ST50484	Grip, Handle Black	2
18	ST50447	Handle, Bent	2
	ST65137	Pan Head Phil.#4 5/16"-18 x 3/4" S.S.	4
	ST65124	Nut, 5/16" Flange S.S.	4
19	ST50479	Left Tray Hanger Welded Assembly	1
20	ST50359	Lock Pin	2
21	ST50358	Roll Pin 1/4" x 2"	2
22	ST50360	Spring, Compression	2
23	ST50480	Right Tray Hanger Welded Assembly	1
21	ST50358	Roll Pin 1/4" x 2"	1
22	ST50360	Spring, Compression	1
24	ST50425	Base, Vibration Mount Left	1
25	ST50426	Base, Vibration Mount Right	1
26	ST50423	Rubber isolator 1"x1"	4
	ST65124	Nut, 5/16" Flange S.S.	8
27	ST50424	Rubber isolator 1"x3/4"	2
	ST65124	Nut, 5/16" Flange S.S.	2
28	ST50421	Harness, Wire	1
29	ST50450	Grate	1
30	ST50453	Clip, S.S.	2
	ST65120	Bolt, 1/4"-20 x 5/8" Hex S.S.	2
	ST65115	Nut, 1/4"-20 Nylock S.S.	2
31	ST50436	Shoulder Washer	6
	ST65122	Bolt, 5/16" x 3/4" Carriage S.S.	6
	ST65099	Nut, 5/16"-18 Nylock S.S.	6

Rotor Housing and Drives Parts



Rotor Housing and Drives Parts List

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	ST50473	Welded Tray	1
2	ST50430	Plate, Tray Mount Right	1
	ST65122	Bolt, 5/16" x 3/4" Carriage S.S.	2
	ST65124	Nut, 5/16" Flange S.S.	2
3	ST50428	Bushing, Tray Hook	2
	ST65123	Bolt, 5/16" x 1-3/4" Carriage S.S.	2
	ST65124	Nut, 5/16" Flange S.S.	2
4	ST50471	Welded Rotor	1
	ST65129	Washer, 3/4"ID 1.32"OD Flat S.S.	2
5	ST50445	Plate, Tray Mount Left	1
	ST65122	Bolt, 5/16" x 3/4" Carriage S.S.	5
	ST65124	Nut, 5/16" Flange S.S.	5
6	ST50419	Bearing, Bronze Flanged Sleeve	2
7	ST50452	Motor, Electric	1
	ST65128	Nut, M8 Nylock S.S.	1
	ST65132	M6x12 S.S Hex Bolt	3
8	ST50427	Plate, Motor Mount	1
9	ST50472	Welded Drive Gear 48T	1
	ST50487	Machine Key 3/16" Sq. x 1-1/4"L (Not Shown)	1
10	ST50435	Sprocket, 35 Series 9T	1
11	ST50470	Chain, #35 with 35 inner links	1
	ST50481	Master Link, 35 Series (Not shown)	1
12	ST50443	Shield, Motor Inner	1
13	ST50468	Clamp, 1/2"ID x .75W Vinyl Coated	1
	ST65121	Bolt, 5/16" x 1/2" Short Neck Carriage S.S	1
	ST65124	Nut, 5/16" Flange S.S.	1
14	ST50444	Shield, Motor Outer	1
	ST65131	Screw, #10-24 Thread-Cutting S.S.	3
15	ST50446	Shield, Chain Drive	1
	ST65122	Bolt, 5/16" x 3/4" Carriage S.S.	1
	ST65099	Nut, 5/16"-18 Nylock S.S.	1
16	ST50431	Shield, Tray Auger	1
	ST65115	Nut, 1/4"-20 Nylock S.S.	2
	ST65120	Bolt, 1/4"-20 x 5/8" Hex S.S.	2
17	ST50447	Handle, Bent	2
	ST65137	Pan Head Phil.#4 5/16"-18 x 3/4" S.S.	4
	ST65124	Nut, 5/16" Flange S.S.	4



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	ST50477	Hopper Assembly	1
2	ST50478	Tray Auger Assembly	1
3	ST50432	Lid, Hopper	1

For service parts and customer support, contact TerraKing, Inc at (717)286-1444 or sales@terraking.com

