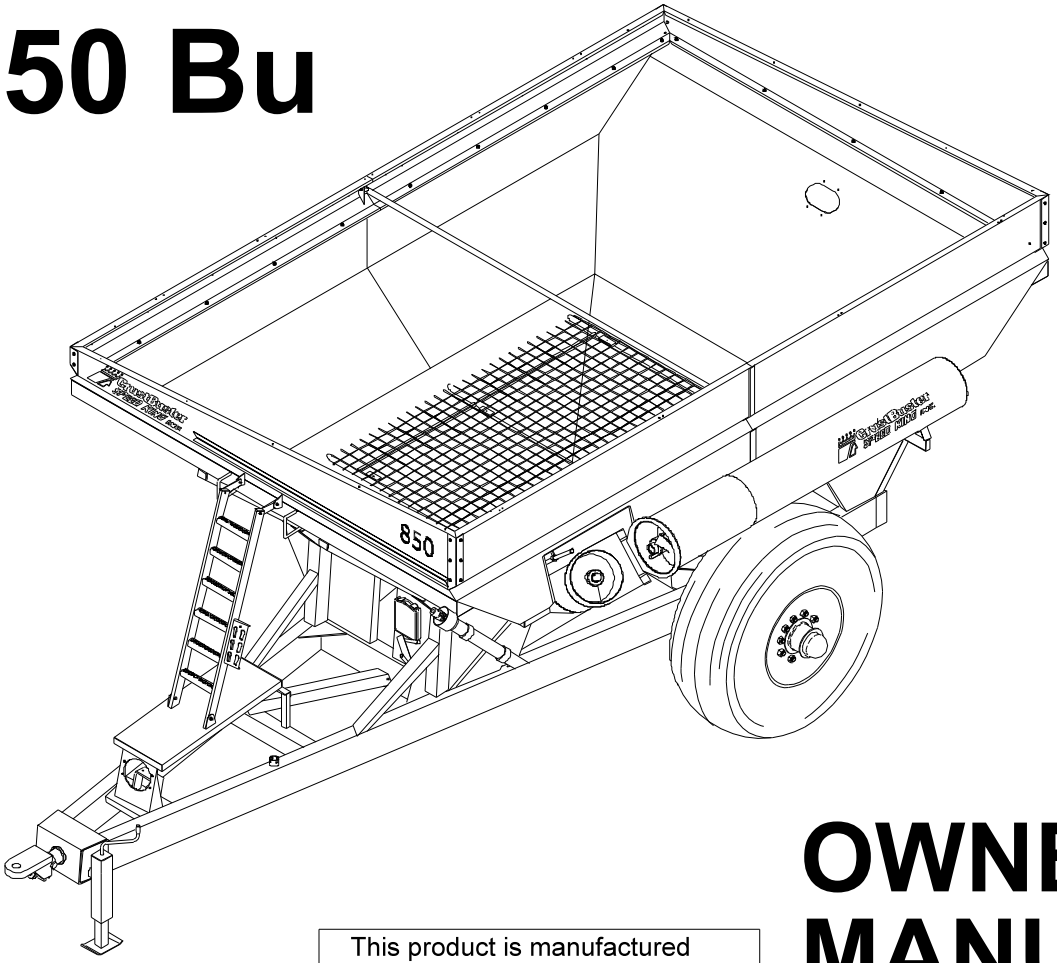
CrustBuster
SPEED KING INC.

P.O. Box 526 - Spearville, Kansas 67876 - (620) 227-7106

Grain Cart
850 Bu



OWNER'S MANUAL

This product is manufactured under license from Pitonyak Machinery Corporation to U.S. Patent No. 7,168,554.

607440

#609214 (2010)

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Warranty

WARRANTY: In addition to the implied warranties of fitness and of merchantability, CrustBuster®/Speed King, Inc. warrants new products sold by it to be free from defects in workmanship and material for a period of 12 months, from the date of delivery to the first user customer. Warranty on purchased parts (cylinder, blades, bearings, shanks, etc.) will be the same as that offered by the appropriate manufacturer of these parts.

EXCLUSIONS: No warranty of any kind is made by CrustBuster®/Speed King, Inc. with regard to new products which have been subject to operation in excess of recommended capacities, misuse, abuse, negligence, or accident, or have been altered or repaired in any manner not authorized by CrustBuster®/Speed King, Inc. CrustBuster®/Speed King, Inc. is constantly striving to improve its products. Changes in design and improvement will be made whenever CrustBuster®/Speed King, Inc. believes the efficiency of its products will be improved thereby, but without incurring any obligation to incorporate such improvements in any products which have been shipped or are in service. No obligation exists for compensation of unauthorized repairs or modifications without prior approval. And in no event will CrustBuster®/Speed King, Inc. be liable for consequential damages, such as but not limited to: downtime, delayed or late tillage or planting, etc.

WARRANTY REGISTRATION: This warranty is not valid unless registered with CrustBuster®/Speed King, Inc. within 10 days from the date of purchase. It is the sole responsibility of the selling retail dealer to fill out the registration forms and see that they are properly filed with CrustBuster®/Speed King, Inc. This can be done at crustbuster.com.

WARRANTY PROCEDURE: Should any part fail to conform with this warranty, CrustBuster®/Speed King, Inc. will repair or replace the part or parts which do not conform. If a part is defective, take it to your authorized CrustBuster® Farm Equipment Dealer immediately, along with your warranty registration, and complete the proper forms requesting a warranty adjustment. Our representative will pick up the part to be returned to the factory for examination. If the customer (first user) requests that a new part be substituted for the old part, a new part will be charged to the dealer who will in turn charge the customer. If the part is found by us to be defective, a credit for the part will be given to the dealer to be passed on to the customer. If the dealer or customer wishes to repair the part, this will be done only if authorized by CrustBuster®/Speed King, Inc. This warranty procedure is in addition to all remedies authorized by law.

CRUST BUSTER®/SPEED KING, INC.
Box 526
Spearville, KS 67876

Specifications are subject to change without notice. CrustBuster ® is a registered trademark of CrustBuster/Speed King,Inc

Dealer Preparation Check List

Complete the items below before delivering the cart.

- ☐ Gearbox filled with oil
- ☐ All fittings lubricated
- ☐ All shields in place and in good condition
- ☐ All fasteners torqued to specifications on chart
- ☐ Tires inflated to proper pressure according to chart
- ☐ Remove clevis attachment from hitch before field operation
- ☐ Check jack stand for proper stability
- ☐ All decals in place and readable
- ☐ Operator's manual has been delivered to owner and the owner has been instructed on safe and proper use of the cart

Dealer's Signature _____

Customer's Signature _____

This check list is to remain in the owner's manual

It is the responsibility of the dealer to complete the procedures listed above before the delivery of this cart to the new owner.

To the Owner

This operator's manual is to be kept with this cart regardless of ownership.



CAUTION: **Some of the illustrations in this manual may show the shields or covers removed for clarity. NEVER OPERATE GRAIN CART without all shields and covers in place.**

Be sure to read all instructions for adjusting and operation of the cart contained in this manual. Check each item referred to and acquaint yourself with them.

After each season, thoroughly clean your cart and inspect it for worn or damaged parts. Leave the clean-out door located at the bottom open. This allows water to drain.

Your dealer has original equipment parts for your grain cart. When you need parts, always specify the model number and the serial number. Write these numbers in the spaces provided below. The serial plate is on the front of the cart.

Model Number	Serial Number
850	

Introduction

This manual provides the necessary instructions for using and maintaining your grain cart. In addition, it contains information on service, warranty, parts ordering, and safety considerations when using the grain cart.

Your grain cart represents the latest in farm equipment technology. It has been continually redeveloped and improved over the last sixty years to better serve grain farmers all over the country.

Your grain cart is designed to be used with all types of grains without any modification required on the cart. Grains most commonly used in the cart are wheat, corn, rice, and soybeans.

Your grain cart is designed to be towed by a tractor. The size of the tractor required depends on the capacity of the cart and the field conditions. The tractor must be equipped with a PTO for the PTO model on your cart. The tractor also must have an adequate hydraulic system. Two remote hydraulic connections are required for the PTO models and four remotes for the hydraulic drive models at (2500 psi & 22 gpm).

Please take the time to read this manual, especially the section on safety. If after reading the manual you have any questions that your dealer cannot answer, please feel free to contact:

CrustBuster/Speed King, Inc.
P.O. Box 1438
Dodge City, Kansas 67801
Phone: 620 227-7106

DANGER: Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. 

WARNING: Indicates a hazardous situation which, if not avoided, could result in death or serious injury. 

CAUTION: Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. 

NOTICE: Used to address practices not related to physical injury. 

Initial Use

A careful operator is the best insurance against an accident!



CAUTION: **Misuse or modification of this machine can cause**
- **Mechanical breakdown**
- **Personal injury or death**

Before using this equipment for the first time, make sure you thoroughly understand all of the operating instructions and have completely read this manual.

All carts are shipped field ready; however, before initial use the following items should be checked:

- All wheel lug nuts should be torqued to 450 ft-lbs of torque prior to initial use and should be checked periodically.
- Tires should be inflated to 26 psi.
- Any retaining straps should be removed from the top auger.
- Close dump door on bottom auger tube. (Leave this door open when not in use to allow for water drainage.)
- Make sure sufficient counter weights are used on tractor front end.
- Move tractor draw bar to shortest position. Make sure the PTO shaft can telescope both inward and outward at least 3".
- Hitch cart to your tractor. The hitch used on the 850 cart requires a clevis type drawbar. If your tractor is not equipped with such, please contact your dealer. DO NOT USE clevis attachment for field use or when cart is loaded. It is for transporting empty cart only.
- Connect hydraulic hoses and PTO shaft if equipped. Make sure the PTO shaft can telescope both inward and outward at least 3".
- Test grain door inside cart to ensure smooth operation and proper functioning of indicator. Look into cart and make sure that the grain door hoses have not been damaged in shipment and that they are not leaking.



CAUTION: **Before testing the auger make sure no one is near the auger assembly.**

- Fold the top auger to full upright position and engage the auger drive, slowly turning the auger. If auger turns freely, then slowly increase the RPM to proper operating speed. DO NOT EXCEED 1000 RPM on PTO. Disengage the auger drive, stopping rotation of the auger. Then slowly return the auger to the transport position. If the auger seems to fold too fast, the flow control valve must be adjusted to match your tractor's hydraulic system (see details in auger section).

Operator's Responsibility



CAUTION: **Operator's Responsibility:**
Most accidents are caused because of neglect or carelessness. Avoid needless accidents by following all of the safety precautions listed below.

The user is responsible for inspecting the cart before each use and for having necessary repairs done to prevent further damage to the cart or possible safety hazards.

It is the responsibility of the user to read the owner's manual and understand the safe and correct operating procedures for the owner's cart.

- The operator of this cart must read and understand the material contained in this manual.
- The cart should be operated by those responsible and authorized by the owner to do so.
- Only a qualified operator should be permitted on the tractor when cart is in operation. No riders should be allowed on the cart.
- Make certain everyone is clear before folding or unfolding the auger.
- Never allow anyone inside the hopper for any reason while tractor is running or when hopper contains grain.
- The tongue jack is designed to support an unloaded cart. DO NOT use jack to support a loaded cart. When jacking up a cart, use caution to make sure all wheels are blocked. Inspection of the jack and related parts should be done frequently to detect any possible damages that could cause the jack or related parts to fail. The main cause of jack failure is the operator moving the cart with the jack still down. If this happens the jack may be unsafe to use. Replace or repair as needed. It is the owner/operator's responsibility to ensure the jack and related parts are in a safe working order.
- Do not transport cart on a public road unless the auger is in the transport position (folded back into the saddle). Also, ensure that the slow moving vehicle decal is in place during daylight and with approved warning lights at night and other periods of poor visibility.
- Carefully maintain control of the grain cart when traveling on roads. Avoid speeds over 8 MPH when loaded.
- Stop the tractor engine before doing any maintenance or repairs to the cart.
- Use caution when working with the hydraulic system. Hydraulic fluid can be under extreme pressure and can cause infection or other serious personal injury.
- Make sure all guards are kept in place.
- Avoid using near electrical lines with the auger extended. Serious injury or death can result from contact with electrical lines. USE EXTREME CARE!
- Make sure your tractor front end is adequately counter weighted.
- Use caution when crossing ditches, levees, etc., or when using on uneven terrain.
- Never allow anyone to play inside or around the grain cart. GRAIN CAN SUFFOCATE!

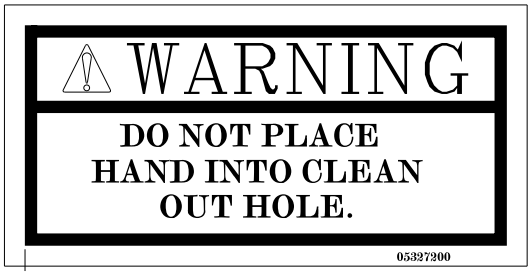
Safety Decals

REMEMBER: If Safety signs have been damaged, removed, become illegible or parts replaced without decals, new decals must be applied. New decals are available from your authorized distributor or factory. Individual decals shown below.

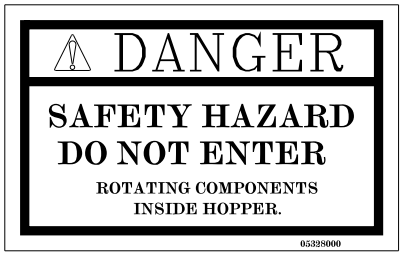
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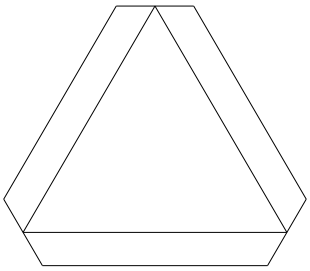
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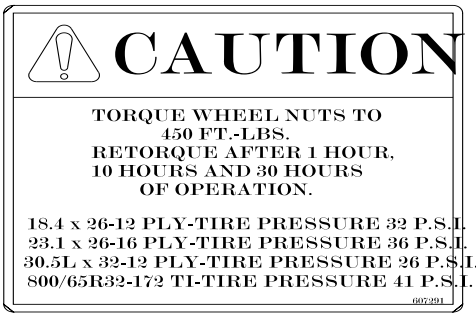
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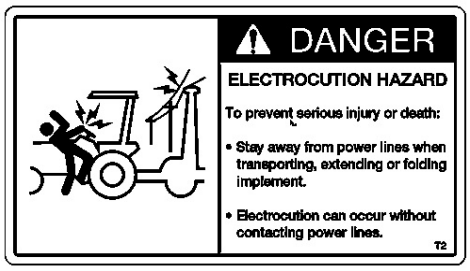
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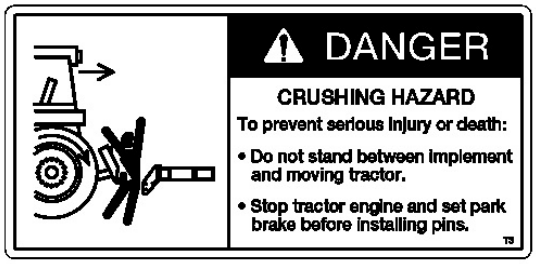


Safety Decals

#608018



#608026



Operating Instructions

- NEVER allow anyone to ride or play on the grain cart.
- NEVER enter the grain cart with the PTO or hydraulic motor running or when it contains grain.
- Make sure all guards are in place.
- Daily grease auger hinge pin, u-joints, and over running coupler.
- The grain flow control door (inside slide door) and the clean out door should both be closed when loading the cart or transporting the cart when filled with grain.
- Extending the auger- Use care when folding and unfolding the auger. Make sure no one is close to the auger. DO NOT extend auger when close to any electrical lines. DO NOT try to extend or fold the auger while it is running.
- If equipped with a PTO drive, slowly engage the PTO at a low RPM, and then slowly increase to desired tractor RPM. Do not exceed 1000 RPM on PTO.
- If equipped with a hydraulic drive, set tractor RPM to 1700 RPM. Snap open hydraulic valve in tractor. DO NOT slowly open valve. After auger is turning, increase tractor to approximately 2200 RPM.
- Slowly open grain flow door after auger is up to speed. Door fully open allows maximum flow. Use “Clean Out” setting to empty all the grain from the cart.
- Use the door to slow grain flow if necessary. DO NOT run auger at slow speed. DO NOT start auger with the grain flow door open.
- Unload the cart.
- DO NOT disengage the auger while unloading without first closing the grain flow door.
- It is advisable to return the tractor to idle before disengaging the auger.
- If you must return to the field or otherwise halt the unloading with a partial load of grain, then close the grain flow door and let the auger finish emptying the grain left in the auger tubing. DO NOT return with a partial load and the grain flow door open.
- It is recommended to transport the grain cart in the field with auger in the folded position, then extend when unloading the cart.

Electrical

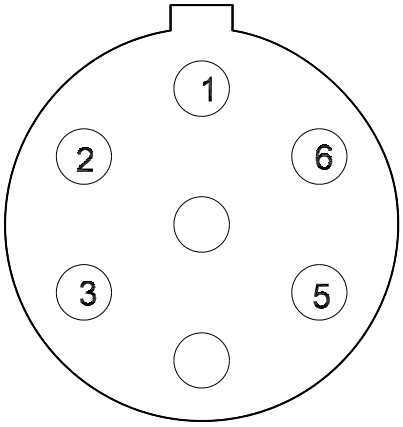
Your cart is equipped with a factory installed lighting kit, which includes two tail lights and two work lights for the auger discharge.

A single switch is provided to control the two work lights.

The connector provided should fit all modern tractors. It is a SAE JS60A seven-point socket. The schematic below shows the color-coded wiring diagram for this connector.

#607671 - Wiring Harness

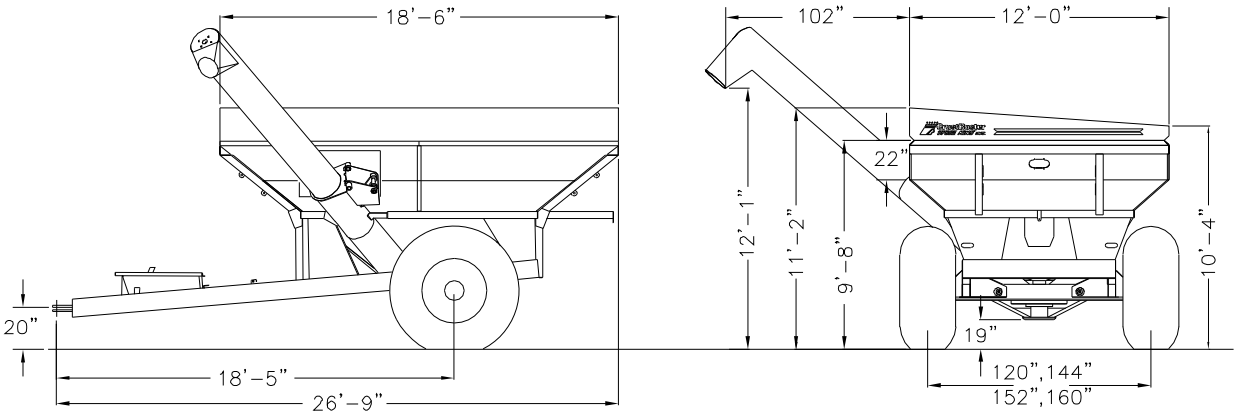
1 White - Ground
2 Black - Work Lights
3 Yellow - Left Tail Light
5 Green - Right Tail Light
6 Brown - Amber Flashing



Dimensions

Model #	Approx. Capacity	Spindle Size	Empty Weight	Tongue Weight
850	850 Bu	4.5	8720	10%

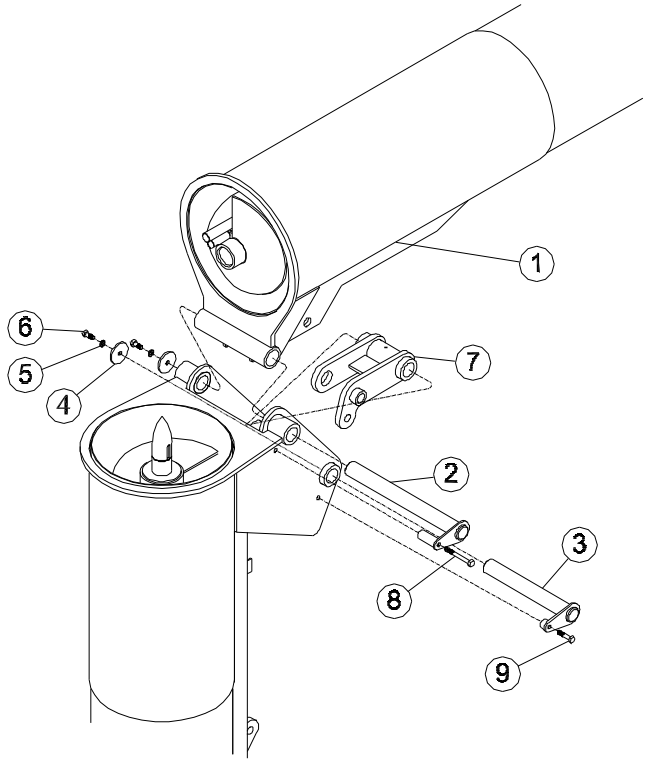
Specifications and design features are subject to change without notice.



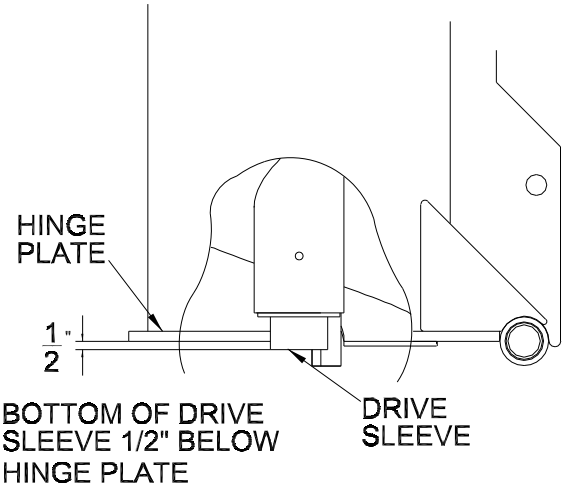
Auger System

General
The 850 grain cart consists of a 17" diameter RH auger flighting mounted on a 5" tube. The auger housing is an 18" diameter tube. All carts employ a hydraulic folding auger. Therefore, each cart has a bottom auger and a top auger. The auger is driven by either a PTO or hydraulic motor and can easily be interchanged.

Auger & Tube Assembly for 850 Cart



Item	Qty	Part No.	Description
1	1	875252	Top Auger Assembly
2	1	969550	Auger Hinge Pin
3	1	969543	Fold Lug Pin
4	2	227728	Pin Washer
5	2	330142	Lock Washer ½"
6	2	01029800	HHCS ½" x 1"
7	1	969568	Fold Lug
8	1	330100	HHCS ½" x 4½"
9	1	336644	HHCS ½" x 2 1/4"



Flighting Wear
Auger flighting wears with use and will need replacing. The auger flighting when new is 5 3/4" wide (18" system). When the flighting has worn ½", it needs repairing. The augers will wear more at the feed end (bottom end). Therefore, it usually is necessary to replace only 2 feet of flighting on the feed ends of the augers the first time they are repaired. When they wear the second time, the whole auger will normally need re-flighting. The augers are balanced at the factory and MUST be balanced by a qualified technician when re-flighted. Failure to do so can cause bearing damage and unsatisfactory operation.

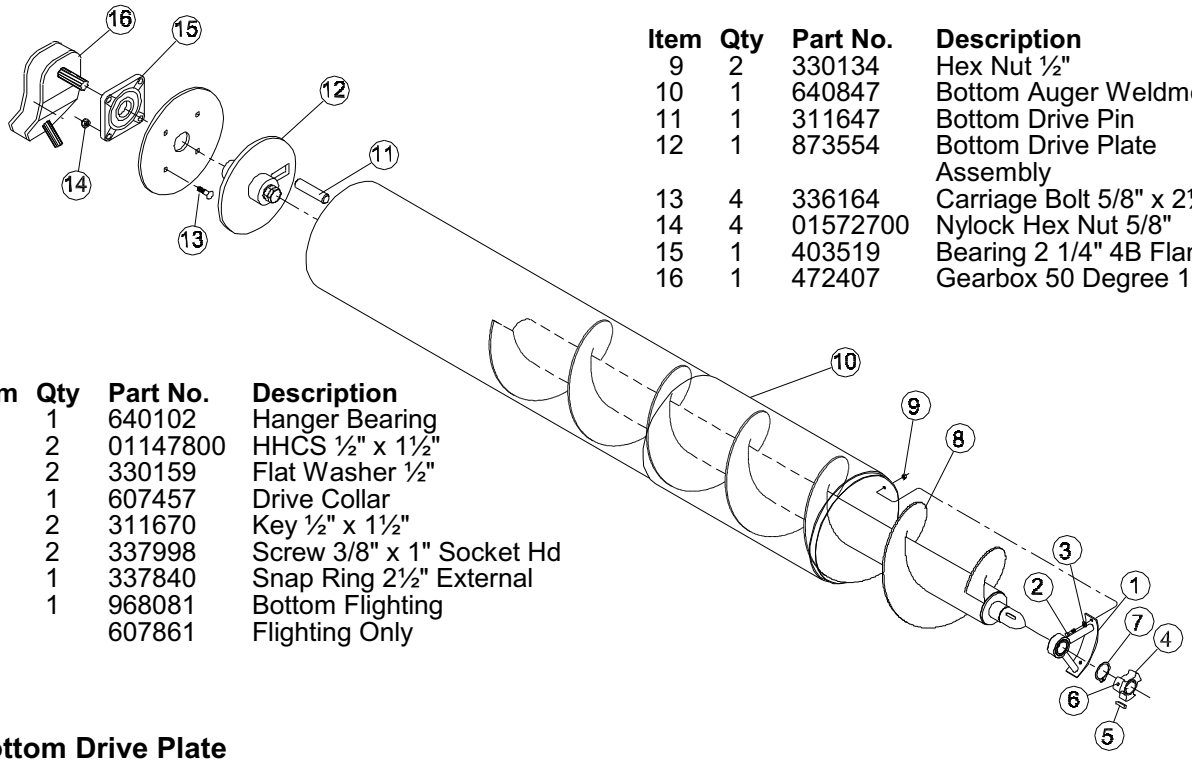
Auger Removal
To remove either auger, the top auger must be in the transport position (resting in the transport saddle). The bottom auger is removed by first unbolting the hanger bearing, then sliding the auger upward and out of the housing tube. The bottom auger is NOT attached in any way and should easily lift out of the cart. To remove the top auger, first remove the bolt in the center of the top shaft. Remove the retaining washer on the top of the auger. The top auger should then slide downward and out of the housing tube. The cart is equipped with a single top auger spring for correct engaging pressure.

Auger Installation
All augers must be in the transport position with the top auger resting in the transport saddle in order to be installed.

Auger System

Bottom Auger
The bottom auger is replaced by sliding the auger downward through the housing tube. The auger may need to be turned to align the bottom drive pin with the matching holes in bottom drive plate. Make sure the bottom drive pin is completely engaged in bottom drive plate. Replace the hanger bearing. Make sure it is reinstalled as it was originally and that it does not bind on the auger pilot shaft. There should be approximately 1/8" clearance between the bearing and the pilot shaft.

NOTE: It is **NOT** necessary to remove the bottom drive plate to remove the bottom auger.



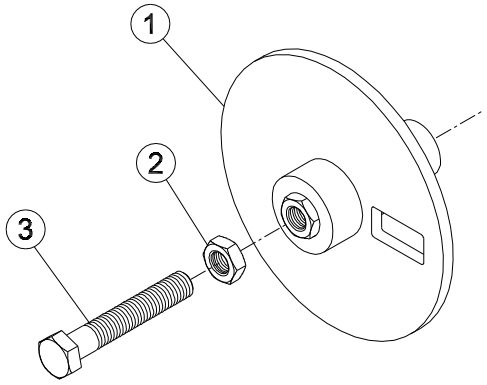
Item	Qty	Part No.	Description
9	2	330134	Hex Nut ½"
10	1	640847	Bottom Auger Weldment
11	1	311647	Bottom Drive Pin
12	1	873554	Bottom Drive Plate Assembly
13	4	336164	Carriage Bolt 5/8" x 2½"
14	4	01572700	Nylock Hex Nut 5/8"
15	1	403519	Bearing 2 1/4" 4B Flange
16	1	472407	Gearbox 50 Degree 1:6:1

Item	Qty	Part No.	Description
1	1	640102	Hanger Bearing
2	2	01147800	HHCS ½" x 1½"
3	2	330159	Flat Washer ½"
4	1	607457	Drive Collar
5	2	311670	Key ½" x 1½"
6	2	337998	Screw 3/8" x 1" Socket Hd
7	1	337840	Snap Ring 2½" External
8	1	968081	Bottom Flighting
		607861	Flighting Only

Bottom Drive Plate
The bottom drive plate installs on the gearbox output shaft by means of a special splined bushing that is welded to the plate. It rests on the bottom bearing so the weight of the auger does not rest on the gearbox itself. There should be approximately 1/4" space between the bottom drive plate and the boot plate on the bottom of the auger housing.

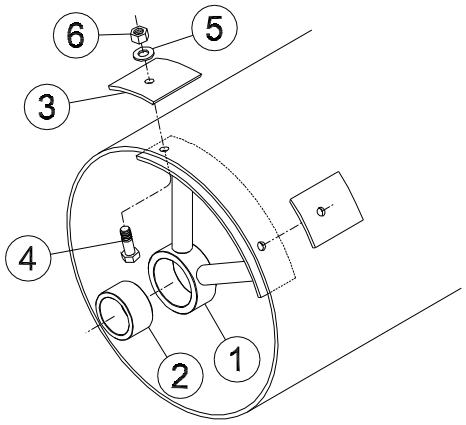
The drive plate must be removed to change seals on the gearbox or do other repairs to the gearbox. To remove the bottom drive plate, first raise the bottom auger off the drive plate. There is a stainless steel bolt located on top of the drive plate bushing. After releasing the installed jam nut, screwing this bolt in will push the bottom drive plate off the gearbox shaft. When re-installing, screw the bolt out within 1" of the end. Tighten the jam nut. Make sure the bolt is secure with the jam nut before replacing the bottom auger. DO NOT screw bolt in so far that it pushes on the gearbox output shaft.

Item	Part No.	Description
1	640151	Bottom Drive Plate
2	332288	Hex Jam Nut 1"
3	338202	Tap Bolt 1" x 6" SS



Auger System

Hanger Bearing
The hanger bearing in your cart is a 2½" bronze bearing and should last many years. Grease periodically.

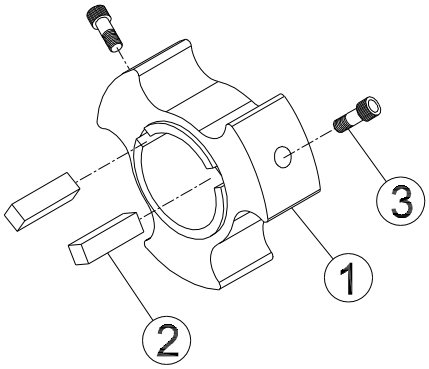


Item	Part No.	Description
1	967513	Hanger Bearing Holder
2	403527	Bronze Bushing 2 33/64" x 3 1/4" x 1 3/4"
3	227520	Back Up Plate
4	01147800	HHCS ½" x 1½"
5	330159	Flat Washer ½"
6	330134	Hex Nut ½"

Drive Collar
The drive collar or the drive pin may become worn or damaged in time and may need to be replaced. The drive pin can be purchased separately and replaced by welding it in place. Care should be taken to align it as it was originally. The pin should be welded with low hydrogen welding rods.

If the augers seem to bind when locking together in the upright position, then check the inside of the top drive bushing. Sometimes it may become burred, as may the pilot shaft. Smoothing the burred surfaces should correct the problem. The drive collar can be turned over and the unworn side used. It is attached to the pilot shaft using two keys and set screws.

DO NOT fold the augers while they are turning. This will cause damage to the drive collar.



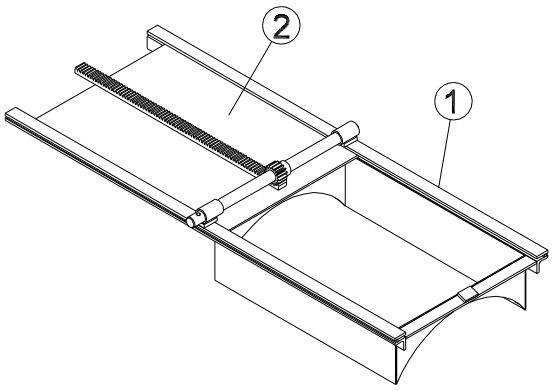
Item	Part No.	Description
1	607457	Drive Collar 2½"
2	311670	Key ½" x 1½"
3	337998	Screw 3/8" x 1" Socket Head

Clean Out Door
Clean out door is for grain pit dumping. It also allows easy access to auger drive plate and bottom of auger. Crank in front of cart allows opening and closing of door.

Always have door closed when using in the field.



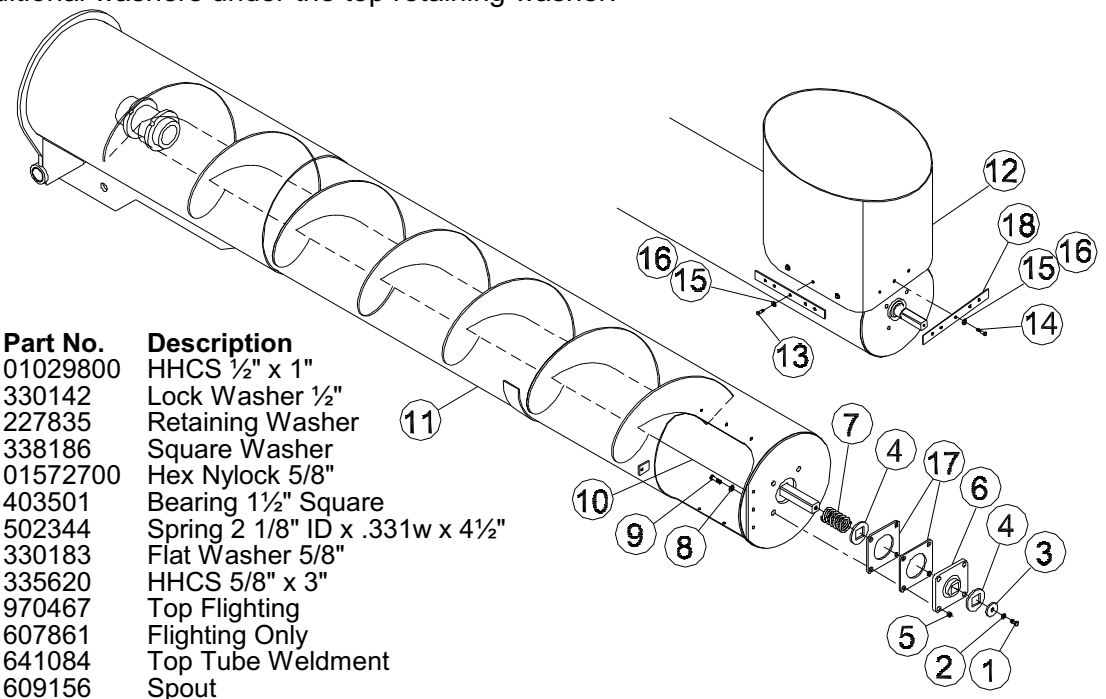
CAUTION:
Keep hands out when tractor is running.



Item	Part No.	Description
	640094	Clean Out Door
1	640078	Door Frame
2	640086	Door Cover

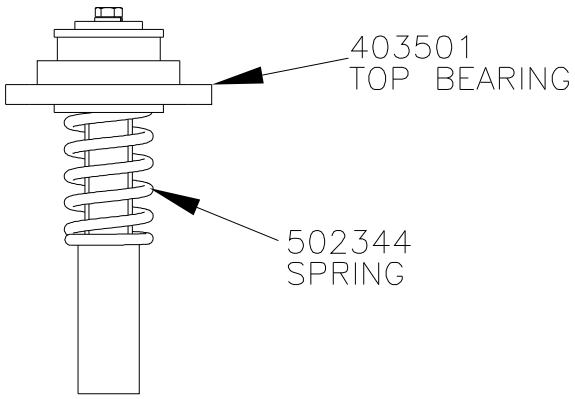
Auger System

Top Auger
The top auger is replaced by sliding the auger upward through the housing tube. Before doing so make sure you replace the single auger spring by sliding it over the top shaft followed by the square spacer washer. The top shaft of the auger will slide through the top bearing. Replace the top retainer washer and top retainer bolt. No adjusting is required. Test the augers by very carefully unfolding them into the operating (upright) position. If the top auger seems to bind with the bottom auger, the top auger needs to be adjusted upward. This can be accomplished by placing additional washers under the top retaining washer.



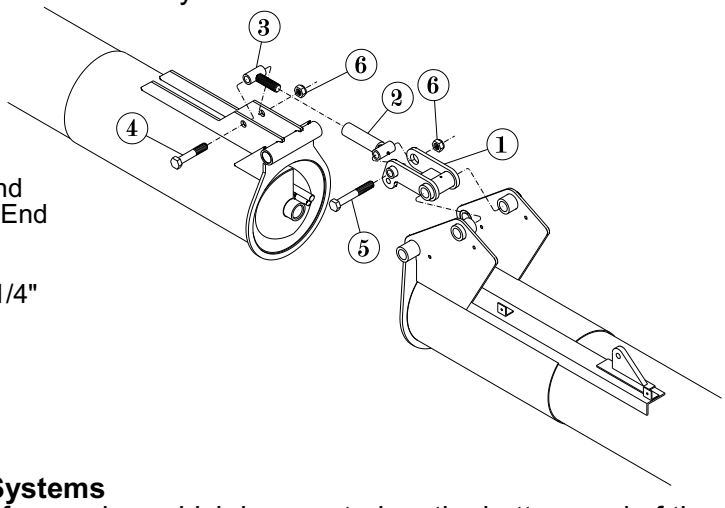
Item	Qty	Part No.	Description
1	1	01029800	HHCS ½" x 1"
2	1	330142	Lock Washer ½"
3	1	227835	Retaining Washer
4	2	338186	Square Washer
5	4	01572700	Hex Nylock 5/8"
6	1	403501	Bearing 1½" Square
7	1	502344	Spring 2 1/8" ID x .331w x 4½"
8	4	330183	Flat Washer 5/8"
9	4	335620	HHCS 5/8" x 3"
10	1	970467	Top Flighting
		607861	Flighting Only
11	1	641084	Top Tube Weldment
12	1	609156	Spout
13	13	01017300	HHCS 3/8" x 1"
14	3	335703	HHCS 3/8" x 1½"
15	19	330894	Flat Washer 3/8"
16	16	330035	Hex Nut 3/8"
17	2	228866	Bearing Shim
18	3	229872	Spout Strap

Top Bearing
The top bearing is a 1½" square four bolt sealed flange bearing. It will rarely need greasing, twice a season will be sufficient. Be careful not to over grease and ruin the seals.



Auger System

Auger Fold System
The auger folding mechanism is hydraulically operated. When in the operating position it locks into place by “breaking over center”. The screw adjustment that determines the locking pressure is set at the factory so the auger will break over center and lock into place. Adjustments may be required later to ensure auger snaps into locked position. If adjustment is necessary, extend threaded end by ONLY one turn, then operate. Repeat if necessary. DO NOT OVER EXTEND! Grease weekly when in use.

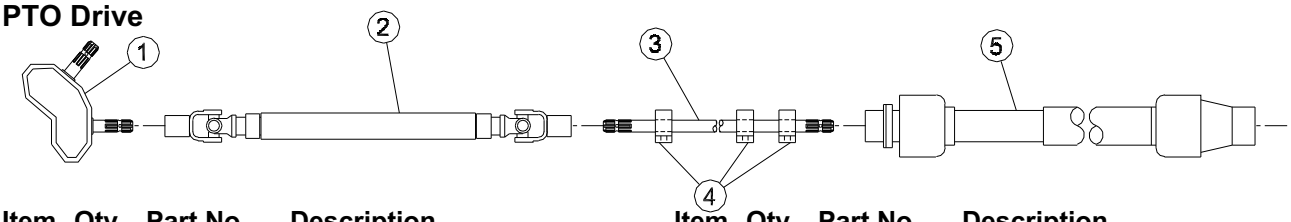


Item	Qty	Part No.	Description
1	1	969568	Fold Lug
2	1	967505	Linkage Female End
3	1	967497	Linkage Threaded End
4	1	333724	HHCS 1 1/4" x 7"
5	1	338236	HHCS 1 1/4" x 9"
6	2	338228	Nylock Hex Nut 1 1/4"

Drive System

PTO and (optional) Hydraulic Drive Systems
The drive system on the 850 consists of a gearbox which is mounted on the bottom end of the auger and connected to the back drive shaft. The back drive shaft is then connected to the 1 3/8" splined middle shaft. The middle drive shaft is then connected to either the PTO shaft (PTO drive models) or a chain coupling and hydraulic motor (hydraulic drive models). The drive system is then connected to the tractor by either the PTO shaft or hydraulic hoses.

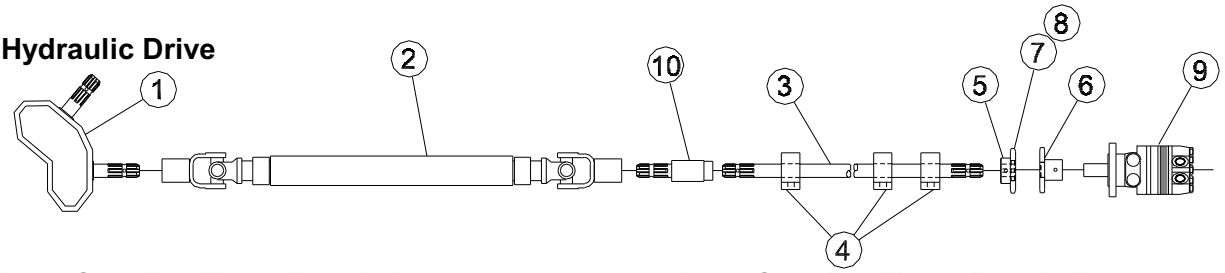
PTO Drive



Item	Qty	Part No.	Description
1	1	472407	Gear Box 50 Degree 1:6:1
2	1	608661	Back Drive shaft (Weasler)
	1	614784	Back Drive shaft (Waltersheid)

Item	Qty	Part No.	Description
3	1	607820	Front Drive shaft
4	3	403493	Bearing 1 3/8" Pillow Block
5	1	611129	PTO Shaft (Weasler)
	1	614776	PTO Shaft (Waltersheid)

Hydraulic Drive



Item	Qty	Part No.	Description
1	1	472407	Gear Box 50 Degree 1:6:1
2	1	608661	Back Drive shaft (Weasler)
	1	614784	Back Drive shaft (Waltersheid)
3	1	607820	Front Drive shaft
4	3	403493	Bearing 1 3/8" Pillow Block
5	1	968172	Sprocket #80 12T 1 3/8" x 6 Splined Hub

Item	Qty	Part No.	Description
6	1	968180	Sprocket #80 12T 1 1/4" Hub
7	1	433920	Chain #80-2 x 11 P
8	1	433912	Chain #80-2 Connector
9	1	473942	Hydraulic Motor
		474189	Seal Kit
10	1	473447	Shaft Coupler 1 3/8M x 1 3/8F

Drive System

Converting to PTO or Hydraulic
To convert your cart from PTO drive to a hydraulic drive, you must first purchase a hydraulic drive kit. The kit includes the hydraulic motor, hoses, mounting plate, and the chain coupling necessary for the conversion.

Remove the PTO shaft from the drive shaft. Install the chain coupling onto the end of the drive shaft. Then slide the hydraulic motor shaft into the other end of the coupling and mount the motor on the hydraulic motor bracket that comes welded to your cart. The motor must be mounted in such a manner that the two faces of the chain coupling are parallel. It may be necessary to shim the motor with flat washers to achieve proper alignment. Failure to align will result in excessive wear of the coupling. Carefully connect the hydraulic hoses provided with the kit to the motor and torque the fittings to 30 lb./ft. maximum. DO NOT OVER TORQUE. The hydraulic hose kits provided are equipped with dual hose connections. This requires the use of two hydraulic tractor remotes, but the auger will turn much faster. If you do not have an extra remote, the system will work using only one port. In this case block one of the twin ½" hoses on each hose set.

To convert from hydraulic to PTO, do the opposite of the above procedure.

Rear PTO Driveshaft
The rear telescoping shaft utilizes the same parts as the tractor PTO. It is equipped with a 1 3/8 x 6 spline clamp bolt yoke on both ends. This facilitates removal in case of maintenance.

The PTO shaft should be greased daily when in use.

Tractor PTO Driveshaft
The PTO telescoping drive shaft used on the 850 cart has been selected for the use on this application by the Weasler engineers. It has a built-in friction clutch with over-running feature to virtually eliminate damage to the drive components by excessive torque or inertial stress from the 18" auger system.

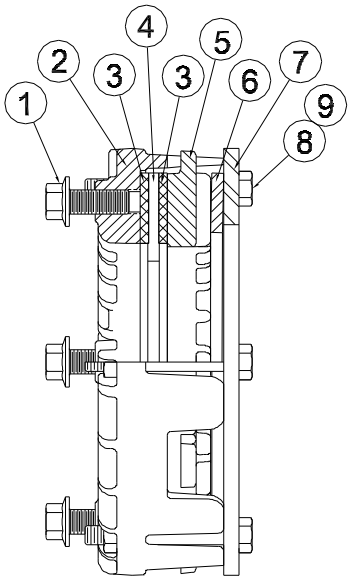
When using your cart for the first time or when changing tractors make sure there is at least 3" of travel left in the PTO when connected to tractor. If not, the shaft could jam causing severe damage.

The PTO shaft should be greased daily when in use. Every year the clutch should be checked, cleaned, and repaired if necessary.

The PTO shaft supplied with your cart has a 1 3/4" x 20 spline tractor end. This is standard and fits all new larger tractors.

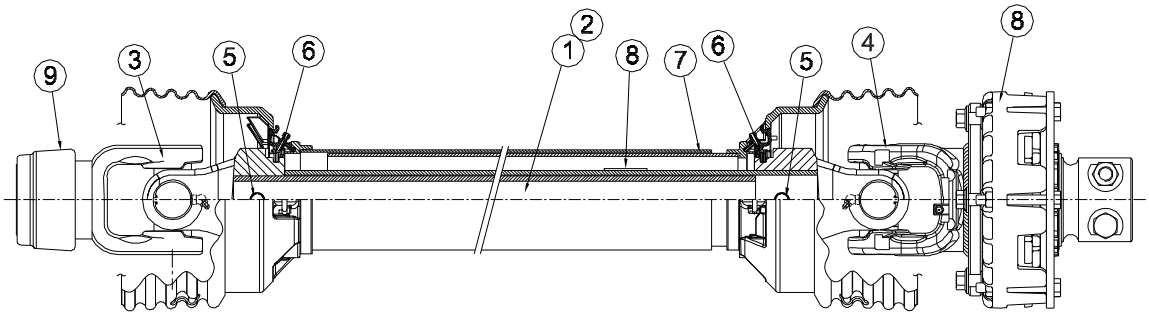
#608885 - PTO Clutch (Weasler)

Item	Part No.	Description
1	608893	Bolt M10 x 1.5 x 25mm
2	608901	Housing
3	608281	Friction Disc
4	608927	Separator Plate
5	608935	Pressure Plate
6	608943	Spring
7	608950	Compression Plate
8	608968	Bolt 5/16-18 x 2½ Grade 8
9	608976	Nut 5/16-18



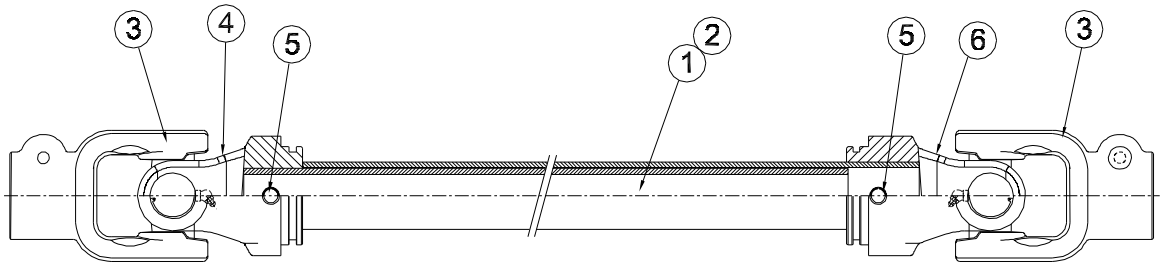
Drive System

#611129 (Weasler)
PTO Shaft - Front



Item	Part No.	Description
1	608984	Lemon Tube Inner
2	608992	Lemon Tube Outer
3	609008	Yoke 1 3/4-20 Spline
	609016	Cross Kit
	609032	Lemon Yoke
4	609024	Yoke 1 3/8-6 Spline
	609016	Cross Kit
	609040	Lemon Yoke
5	609057	Roll Pin
6	609065	Bearing Kit
7	609073	Guard
8	608885	Clutch
9	609404	QD Repair Kit

#608661 (Weasler)
PTO Shaft - Rear

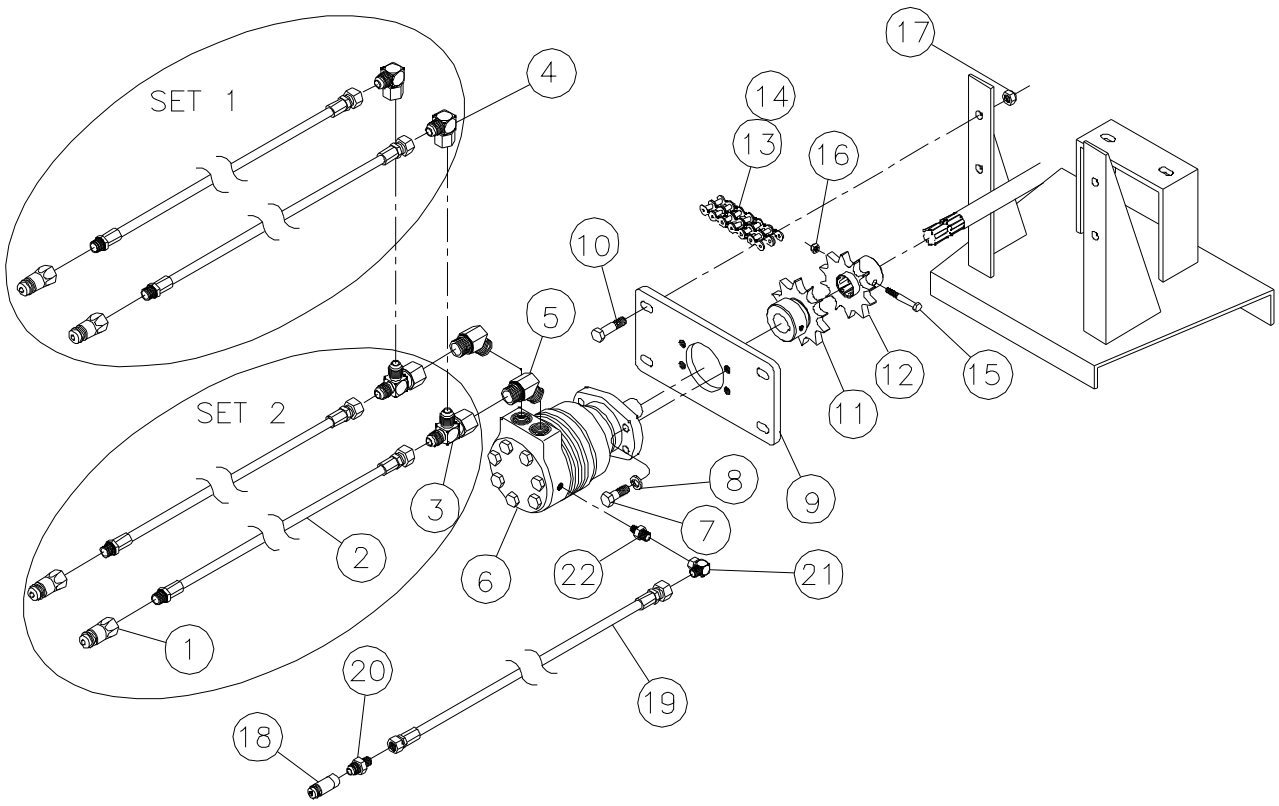


Item	Part No.	Description
1	608984	Lemon Tube Inner
2	608992	Lemon Tube Outer
3	609081	Yoke 1 3/8-6 Spline
	609016	Cross Kit
4	609032	Lemon Yoke (Small)
5	609057	Roll Pin
6	609040	Lemon Yoke (Large)

Drive System

Hydraulic Drive

Minimum tractor requirements for hydraulic drive: 22 gpm @ 2500 psi.



Item	Part No.	Description
1	465385	Male Coupler 3/4" FOR
2	472951	Hose ½" x 84" 3/4 MOR x 1 1/16 JICF Sw
3	03556800	Tee 1 1/16 JICM (2) x 1 1/16 JICF Sw
4	00562900	Adapter 90D 1 1/16 JICF Sw x 1 1/16 JICM
5	00601500	Adapter 45D 1 1/16 JICM x 1 1/16 MOR
6	473942	Hydraulic Motor
7	01147800	HHCS ½" x 1½"
8	330142	Lock Washer ½"
9	227942	Motor Mount
10	331926	HHCS ½" x 2"
11	968180	Sprocket #80 12 Tooth 1 1/4" Hub
12	968172	Sprocket #80 12 Tooth 1 3/8 x 6 Splined Hub
13	433920	Chain #80-2 x 11 Pitches
14	433912	Chain #80-2 Connector
15	331710	HHCS 5/16" x 2 ½"
16	331611	Nylock Nut 5/16"
17	331363	Nylock Nut ½"
18	474064	Hyd Coupler Male-Flat Faced
19	474676	Hose 1/4" x 84" 7/16 JICF Sw x 9/16 JICF Sw
20	472472	Adapter Straight 7/16 JICM x 3/4 MOR
21	469049	Adapter 90D 9/16 JICM x 9/16 JICF Sw
22	03357100	Adapter Straight 7/16 MOR x 9/16 JICM

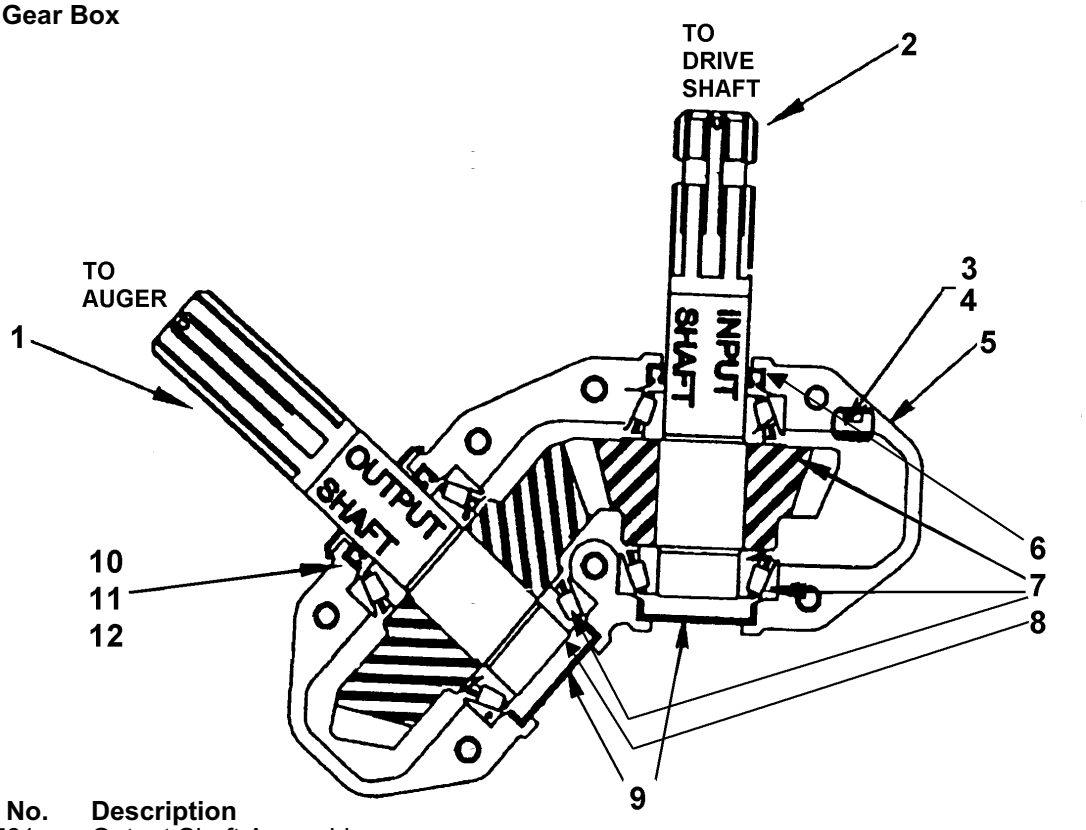
Drive System

Gearbox
The gearbox used on all carts is a heavy duty box and gears that will rarely need repairing. However, if repairs are required, the gear case can easily be unbolted for replacing the bearings, seals, gears, and shafts. Often, the gearbox shaft is stuck in the spline bushing of the bottom drive plate. (Refer to section on bottom drive plate.) In this case raise the bottom auger a few inches. This will expose the stainless steel bolt located on top of the bottom drive plate bushing. Screw the bolt in to push the gearbox out of the bushing. Return the bolt to its original position when finished. The gearbox shaft is NOT fastened to the spline bushing in any way. (See the gearbox drawing for part numbers.)

Check the oil level in the gearbox every season and check for leaks daily. DO NOT overfill the gearbox. If oil is leaking from the gearbox, then the seals are probably worn and need replacing. DO NOT run the gearbox if it is low on oil. Damage to gearbox could be severe.

Assembling Gearbox
When bolting the case halves back together the cleaned surfaces must be primed with Loctite #19269 and coated with Loctite gasket eliminator #515. The bolts must be torqued evenly (38 to 45 lb./ft.). DO NOT OVER TORQUE. Replace oil in the gearbox (SAE 90).

#472407 - Gear Box



Item	Part No.	Description
1	472761	Output Shaft Assembly
2	472779	Input Shaft Assembly
3	472787	Plug
4	472795	Casting
5	472803	Casting -w/tapped holes
6	472811	Seal Input

Item	Part No.	Description
7	472829	Bearing Race Input
8	472837	Bearing Cone Input
9	472845	End Cap
10	472852	Seal Output
11	472860	Bearing Race Output
12	472878	Bearing Cone Output

Hopper and Components

General
The hopper on the 850 cart is constructed of sheet metal. All carts are equipped with a grain flow control door (also referred to as a slide door) mounted on the bottom of the hopper. This door and the hydraulics required to operate it are considered part of the hopper assembly. In addition, the auger transport saddle and the lighting kit are considered part of the hopper.

Do not store your cart with grain or other material left in the bottom. The hopper should be cleaned before storing and the drain door located at the bottom of the auger tube should be opened to permit water drainage. Repair and paint any damaged areas on the hopper.

Grain Door (Slide Door)
The grain flow control door is hydraulically operated from the tractor. It is used to close off or control the grain flow to the auger. It is recommended that this door be completely closed when pulling the cart in the field. This will prevent grain from packing into the bottom of the auger. This could cause possible damage to the drive system on the PTO models or the hydraulic motor to stall on the hydraulic driven models.

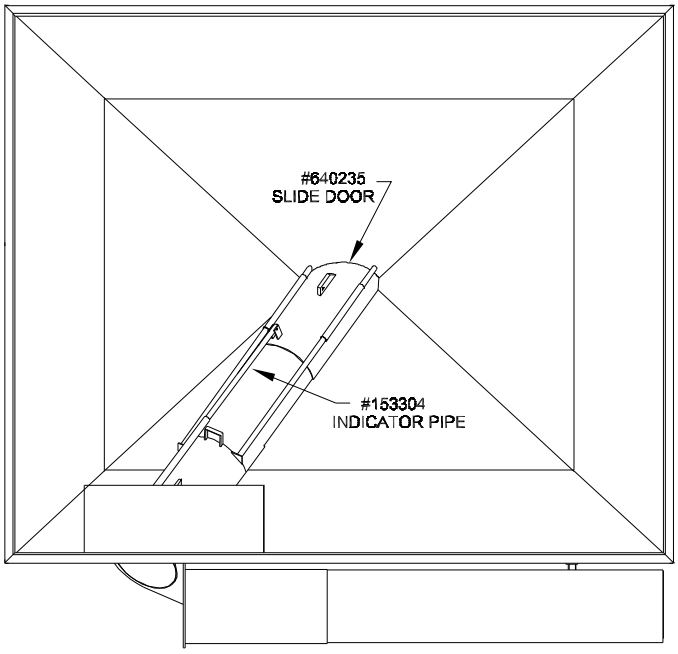
An indicator is located on the front of the cart hopper to show whether the door is opened or closed.

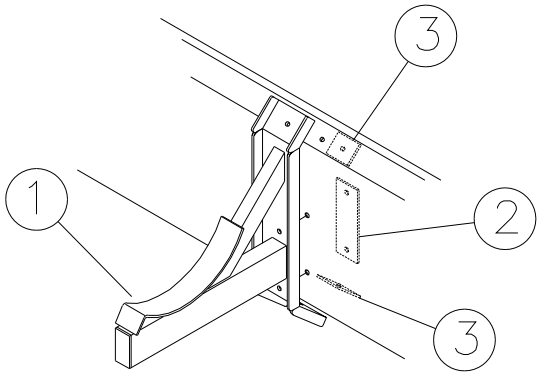
The door can also be used to regulate the amount of grain going to the auger. This may be useful when loading grain drills or other containers where only a limited amount of grain is needed. In such cases, DO NOT simply run the auger slower as this could cause damage to the drive system. Instead, use the grain-flow control door.

Before using your cart for the first time, make sure this door is opening and closing properly. If it is not, you will not be able to unload the cart.

Auger Saddle
The auger transport saddle is located on the left back side of the cart. Always fold the auger back into the saddle when transporting the cart. Make sure the auger rests firmly in the saddle.

CAUTION: Keep everyone clear of the cart while folding or unfolding the auger.



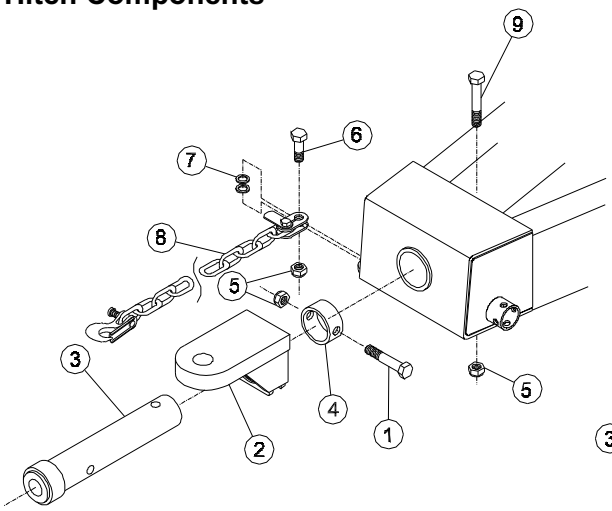


Item	Part No.	Description
1	970079	Auger Saddle
2	229278	Back Up Plate
3	229260	Back Up Plate -Short

Frame and Axle

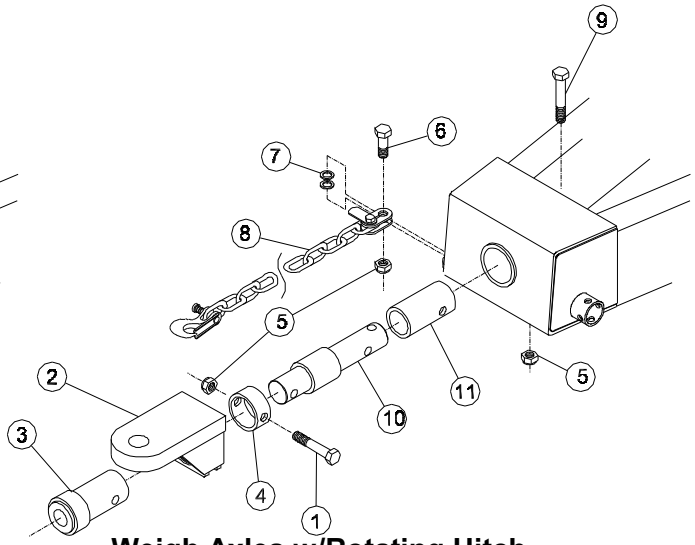
General
The frame and axle of the cart are built of different materials depending on the model of the cart. In most cases, however, the frames and axles are designed to withstand the most demanding farm use with a considerable margin of safety.

Hitch Components



Standard Axles w/Rotating Hitch

Item	Qty	Part No.	Description
1	1	332817	HHCS 1" x 6"
2	1	972430	Rotating Hitch
3	1	973131	Rotating Hitch Sleeve
4	1	155168	Bolt on Hitch Sleeve
5	3	330597	Nylock 1"
6	1	334987	HHCS 1" x 3"
7	2	335166	Machine Bushing 1" x 10 ga
8	1	433946	Safety Chain 21,000#
9	1	332732	HHCS 1" x 6½"

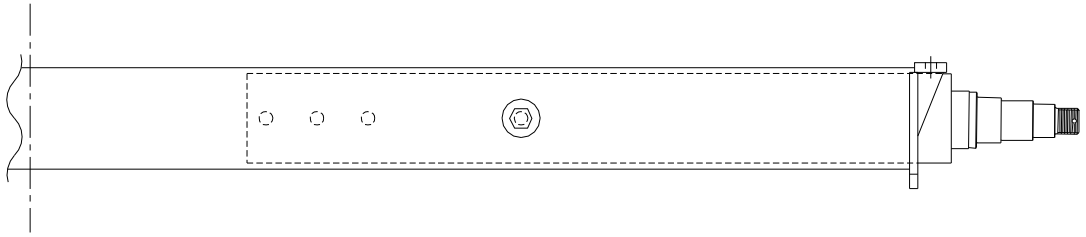


Weigh Axles w/Rotating Hitch

Item	Qty	Part No.	Description
1	1	332817	HHCS 1" x 6"
2	1	972430	Rotating Hitch
3	1	972448	Rotating Hitch Sleeve
4	1	155168	Bolt on Hitch Sleeve
5	3	330597	Nylock 1"
6	1	334987	HHCS 1" x 3"
7	2	335166	Machine Bushing 1" x 10 ga
8	1	433946	Safety Chain 21,000#
9	1	332732	HHCS 1" x 6½"
10	1	610980	Hitch Weigh Bar
11	1	155176	Hitch Convertor

Axle
The carts are all equipped with an adjustable axle. This enables the operator to set the tire track to match the row spacing of his crops. The factory settings are at 120", 144", 152" and 160". New holes may be drilled in the axle for intermediate settings if the owner desires.

Axle Adjustment
The axle is shipped in the 120" setting. To extend the axle, block up one side of the cart off the ground, being very careful that the blocks used are sturdy and safely placed. Loosen the bolts running through the axle and remove them. Pull the axle to the next hole setting and replace bolt. Make sure the bolts are torqued to specification. (See torque chart). Repeat procedure for the other side of the cart.



Frame and Axle

Wheels and Tires

Standard on the 850 cart are 30.5 x 32 R1 12 ply Goodyear tires.

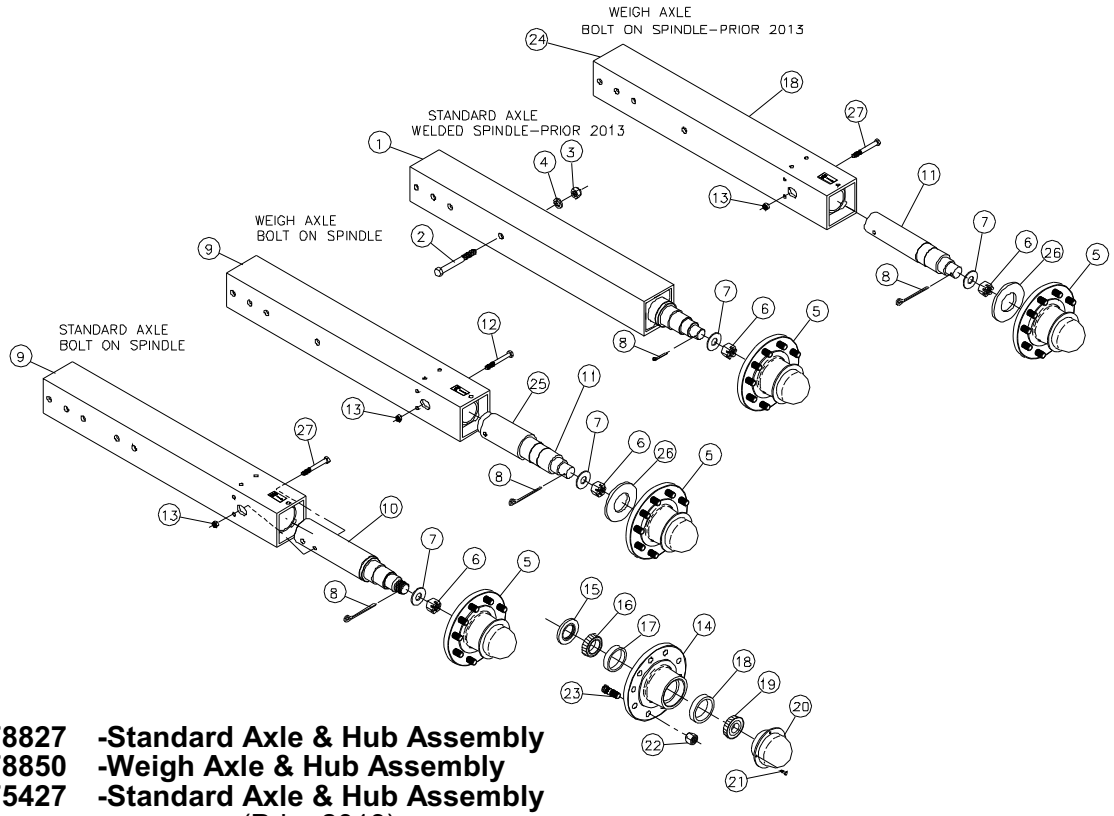
In case of warranty claims see your local Goodyear dealer.

We DO NOT recommend or condone using “used” wheels or tires. This will void the warranty on the hubs, spindles, and axle of the cart as certain offsets may overload the bearings and hubs.

Torque wheel nuts to 450 ft./lbs. Re-torque after 1 hour, 10 hours, and 30 hours of operation. Tire pressure 26 psi. KEEP LUG NUTS TIGHT!

Hubs and Spindles

The 850 cart with standard axles uses a 10 bolt hub mounted on a 4½" diameter spindle. Be sure to keep spindle nut tight and repack bearings with grease each season.



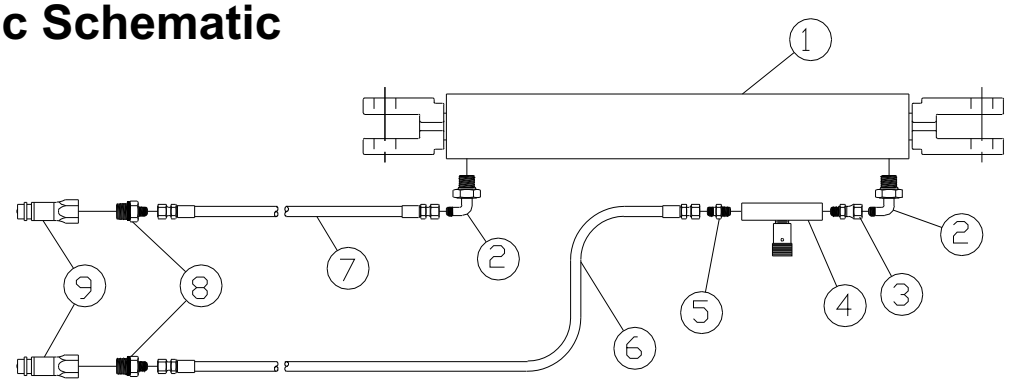
#878827 -Standard Axle & Hub Assembly
#878850 -Weigh Axle & Hub Assembly
#875427 -Standard Axle & Hub Assembly
(Prior 2013)
#877225 -Weigh Axle & Hub Assembly
(Prior 2013)

Item	Part No.	Description
1	969659	Inside Axle -Standard Axles
	403469	881 Spindle 4½"
2	332155	HHCS 1" x 9½"
3	330381	Hex Nut 1"
4	330399	Lock Washer 1"
5	403477	881 Hub Complete
6	403634	Spindle Nut
7	403626	Spindle Washer
8	403642	Cotter Pin
9	972471	Inside Axle -Bolt on Spindles
10	403774	Spindle 4½" -881 hub
11	403717	Weigh Spindle 3.725" diameter
12	333625	HHCS 5/8" x 6"
13	01572700	Nylock 5/8"

Item	Part No.	Description
14	403659	881 Hub w/cups only
15	403618	Grease Seal
16	403584	Inner Bearing
17	403550	Inner Cup
18	403568	Outer Cup
19	403592	Outer Bearing
20	403600	Hub Cap
21	331546	HHCS 5/16" x ½"
22	403352	Lug Nut
23	337899	Stud
24	972463	Inside Axle -Weigh Axles
25	613356	Spindle Sleeve 4½"
26	611053	Seal
27	332007	HHCS 5/8" x 5½"

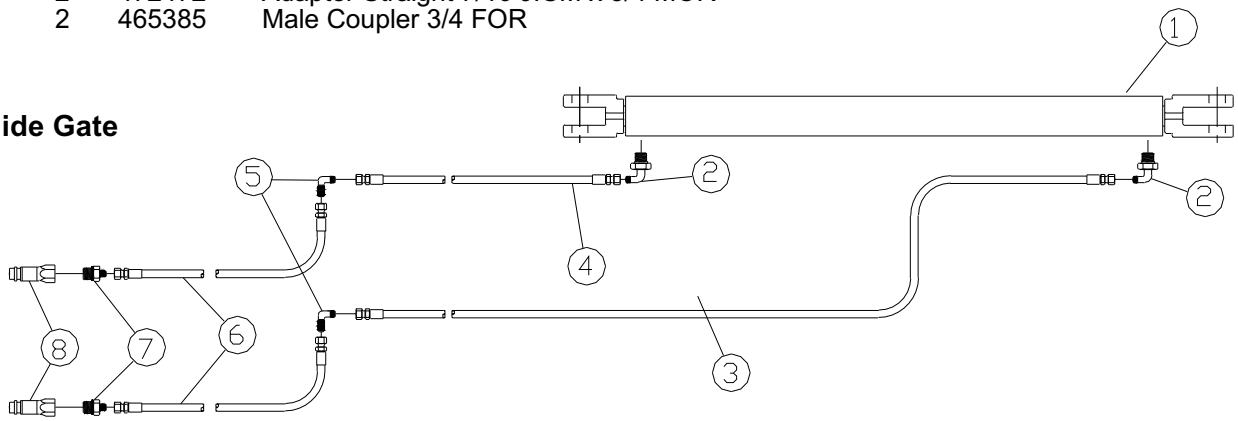
Hydraulic Schematic

Auger Fold



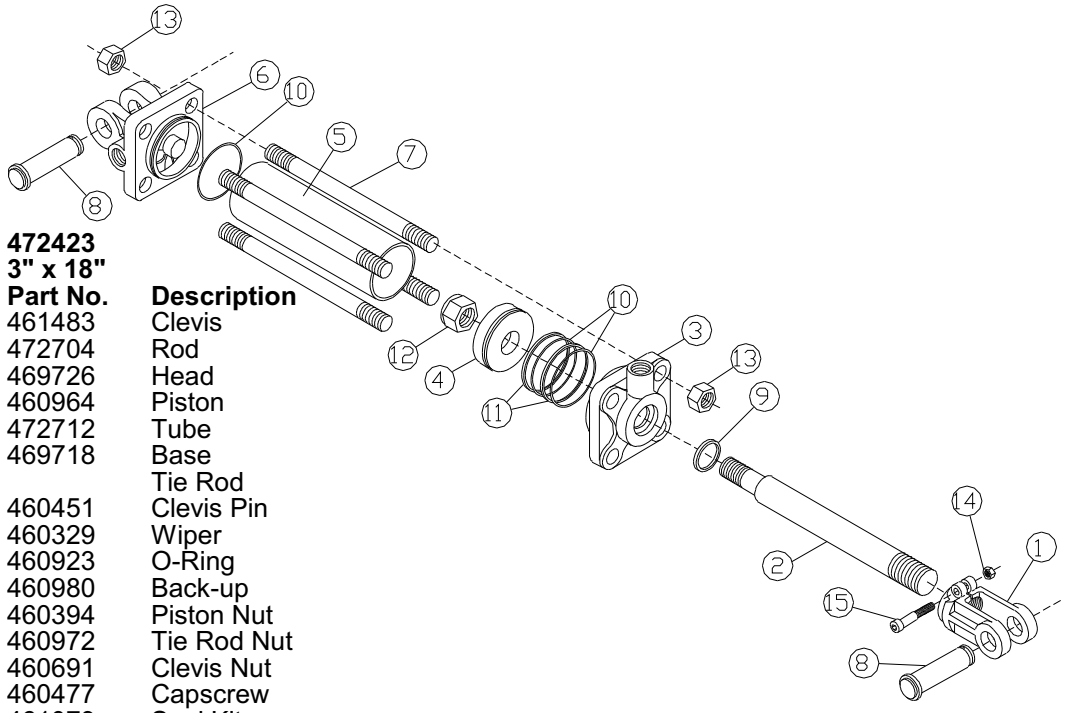
Item	Qty	Part No.	Description
1	1	472423	Cylinder 3 x 18 1 1/4" Rod
2	2	472456	Adapter 90D 7/16 JICM x 3/4 MOR
3	1	472480	Adapter Straight 7/16 JICF Sw x 1/4 MP
4	1	472431	Hydraulic Flow Control Valve
5	1	472498	Adapter Straight 7/16 JICM x 1/4 MP
6	1	472928	Hose 1/4" x 300" w/ 7/16 JICF Sw
7	1	472910	Hose 1/4" x 327" w/ 7/16 JICF Sw
8	2	472472	Adapter Straight 7/16 JICM x 3/4 MOR
9	2	465385	Male Coupler 3/4 FOR

Slide Gate



Item	Qty	Part No.	Description
1	1	472415	Cylinder 2½ x 30 1 1/4" Rod
2	2	472456	Adapter 90D 7/16 JICM x 3/4 MOR
3	1	472506	Hose 1/4" x 57" w/ 7/16 JICF Sw
4	1	472514	Hose 1/4" x 48" w/ 7/16 JICF Sw
5	2	472464	Adapter 90D 7/16 JICM x 7/16 JICM Bulkhead
6	2	472902	Hose 1/4" x 334" w/ 7/16 JICF Sw
7	2	472472	Adapter Straight 7/16 JICM x 3/4 MOR
8	2	465385	Male Coupler 3/4 FOR

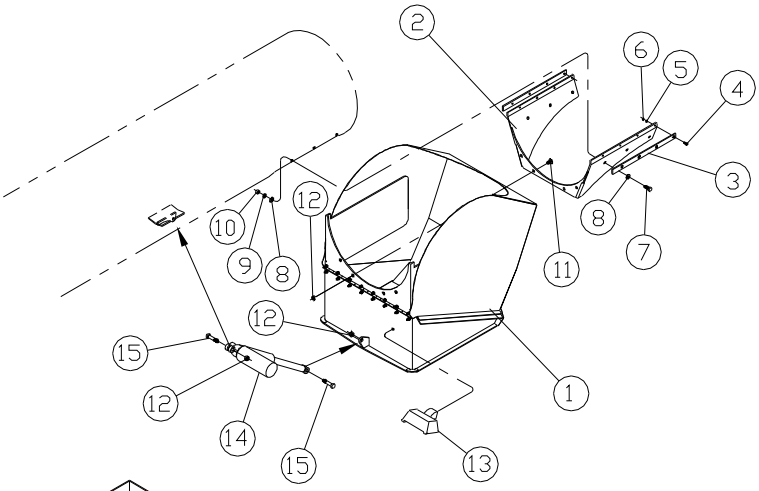
Hydraulic Cylinders

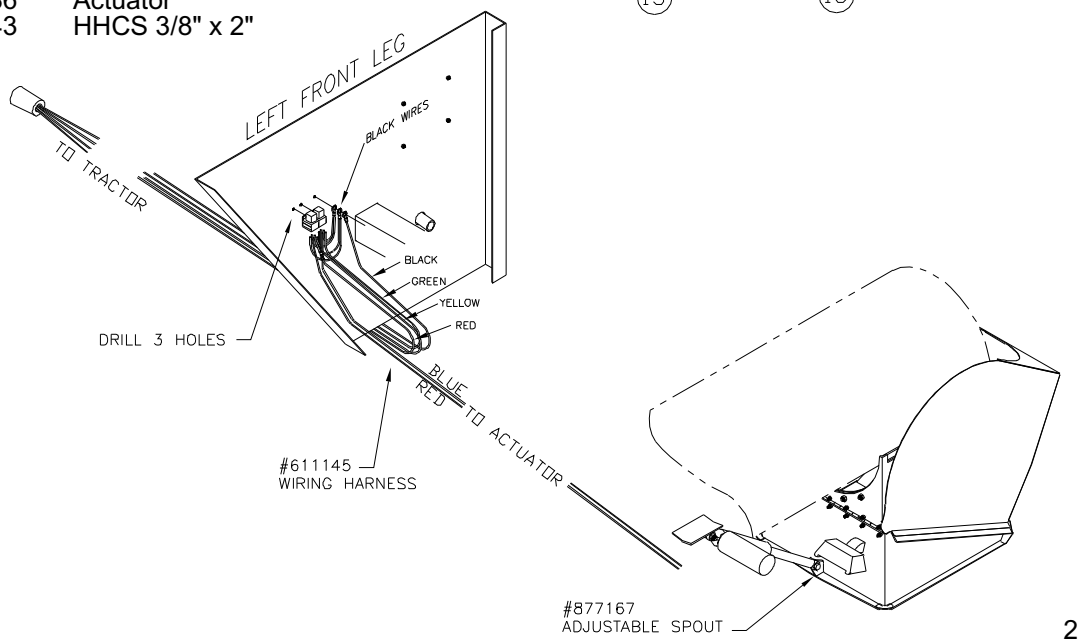


Item	472415 2½" x 30" Part No.	472423 3" x 18" Part No.	Description
1	461483	461483	Clevis
2	460824	472704	Rod
3	472720	469726	Head
4	472746	460964	Piston
5	472753	472712	Tube
6	473504	469718	Base
7			Tie Rod
8	460451	460451	Clevis Pin
9	460329	460329	Wiper
10		460923	O-Ring
11		460980	Back-up
12	460394	460394	Piston Nut
13	460691	460972	Tie Rod Nut
14	460691	460691	Clevis Nut
15	460477	460477	Capscrew
	460485	461079	Seal Kit

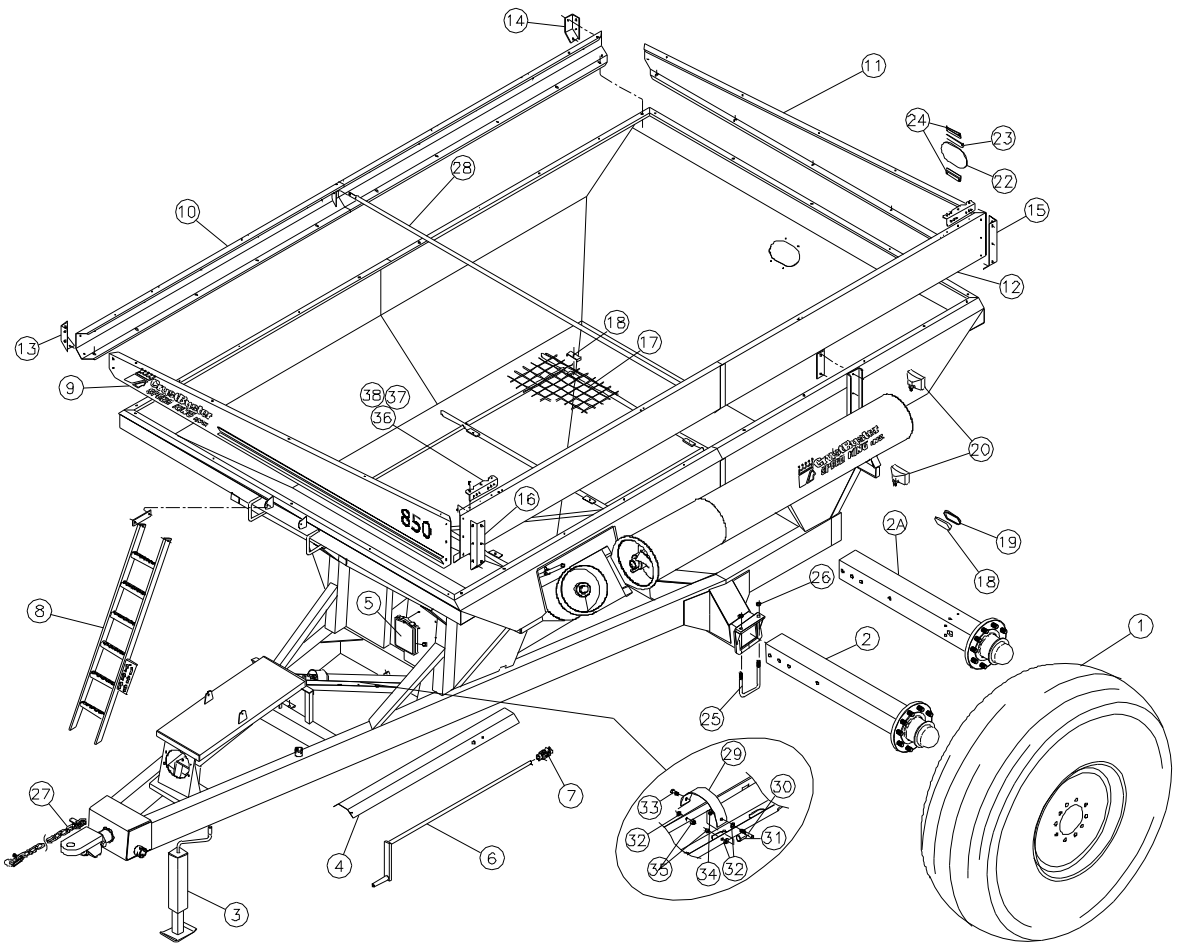
#877176 -Adjustable Spout Option

Item	Qty	Part No.	Description
1	1	877159	Auger Spout
2	1	235010	Auger Mount
3	2	571919	Back up Strap
4	8	338723	Screw #10-24 x 5/8"
5	8	02693000	Lock Washer #10-24
6	8	01052000	Hex Nut #10-24
7	6	01017300	HHCS 3/8" x 1"
8	12	330894	Flat Washer 3/8"
9	6	330043	Lock Washer 3/8"
10	6	330035	Hex Nut 3/8"
11	4	330654	Carriage Bolt 3/8" x 1"
12	6	330837	Nylock 3/8"
13	1	03450400	Light
14	1	473686	Actuator
15	2	334243	HHCS 3/8" x 2"





Repair Parts



Item	Part No.	Description
1	531038	Tire & Rim LH
	531046	Tire & Rim RH
	531004	Tire Only 30.5L x 32 12 Ply
	531020	Rim Only 27 x 32 10 Bolt
2	875427	Spindle & Hub
3	531053	Jack
4	268060	Shield
5	607416	Manual Pak
6	968123	Door Crank Handle
7	400937	U-Joint 1" Round - 1" Round
8	968032	Ladder
9	268243	Extension Front
10	969840	Extension Side Right
11	268250	Extension Rear
12	969857	Extension Side Left
13	268490	Extension Corner Right Front
14	268482	Extension Corner Right Rear
15	268508	Extension Corner Left Rear
16	268516	Extension Corner Left Front
17	266460	Safety Screen

Item	Part No.	Description
18	228288	Safety Screen Clamp
19	605535	Light Red Oval
20	605709	Light Grommet
21	03450400	Flood Light
22	571448	Window
23	571471	Trim Lok
24	268078	Window Clamp
25	337113	U-Bolt 3/4 x 7 x 9½
26	330316	Nylock 3/4
27	433946	Safety Chain
28	153668	Extension Brace
29	611343	PTO Carrier Strap
30	16864100	Strap Pin
31	330928	Klik Pin 3/16"
32	330894	Flat Washer 3/8"
33	01017300	HHCS 3/8" x 1"
34	330035	Hex Nut 3/8"
35	330837	Nylock 3/8"
36	271957	Tarp Bracket
37	338889	Screw .313 x 1 Button Head
38	331611	Nylock .313

Engineering Specifications

Standard Torque Data for Nuts and Bolts
Pound/Feet

Bolt Diameter	Grade 2		Grade 5		Grade 8	
Inches	Min.	Max.	Min.	Max.	Min.	Max.
3/8	6	7	9	10	13	14
½	52	59	80	90	115	130
5/8	104	117	160	180	225	255
3/4	185	205	285	320	400	450
7/8	180	200	460	575	645	725
1	265	300	685	720	970	1090
1 1/4	535	600	1200	1350	1940	2180

Tire Inflation Table

Tire Size	Pressure psi
30.5 x 32	26

Standard Torque Data for Hydraulic Fittings

Hydraulic Fitting Size		Pound/Feet	
		Min.	Max.
#4	7/16-20	6	10
#5	1/2-20	10	15
#6	9/16-18	15	20
#8	3/4-16	25	30
#10	7/8-14	35	40
#12	1 1/16-12	60	70

CrustBuster
SPEED KING INC.

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