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

6000 Planter

OWNER'S MANUAL

OPERATION • MAINTENANCE • REPAIR PARTS

 # 611962 - 2018

Identification

Your CrustBuster® planter is identified by a Serial Number and Model Number. Record these numbers in the spaces provided in this manual and refer to them when ordering parts or requesting service.

Serial Number	Model Number

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.

CRUSTBUSTER®/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.

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BE A SAFE OPERATOR
BY THINKING BEFORE ACTING
AND
BY READING
YOUR OWNER'S MANUAL

Avoid Accidents

Most accidents, whether they occur in industry, on the farm, at home, or on the highway, are caused by the failure of some individual to follow simple and fundamental safety rules or precautions. For this reason most accidents can be prevented by recognizing the real cause and doing something about it before the accident occurs.

Regardless of the care used in the design and construction of any type of equipment, there are many conditions that cannot be completely safeguarded against without interfering with reasonable accessibility and efficient operation.

A CAREFUL OPERATOR
is the Best Insurance Against an Accident.
The complete observance of one simple rule would prevent many thousands of serious injuries each year.

That rule is:

Never Attempt to
Clean, Oil, or Adjust
A Machine While It Is In Motion.

To Our Customers

The following pages and illustrations are printed to help supply you with the knowledge to better operate and service your new CrustBuster equipment.

We are proud to have you as a customer and feel you will be proud to be a CrustBuster owner.

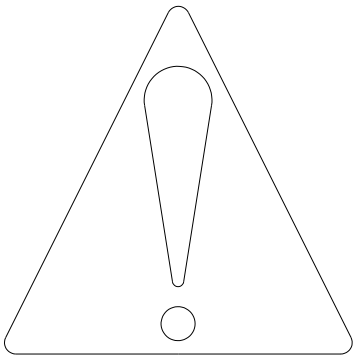
Any piece of equipment needs, and must have, a certain amount of service and maintenance to keep it in top running condition. We have attempted to cover all the adjustments required to fit most conditions; however, there may be times when special care must be taken to fit a condition.

Study this owner's manual carefully and become acquainted with all the adjustments and operating procedures before attempting to operate your new equipment. Remember, it is a machine and has been designed and tested to do an efficient job in most operating conditions and will perform in relation to the services it receives.

If special attention is required for some condition, ask your CrustBuster dealer; he will be glad to help and answer any questions on operations and service of your new machine.

TAKE TIME FOR SAFETY

RECOGNIZE SAFETY INFORMATION



THIS IS THE SAFETY-ALERT SYMBOL. WHEN YOU SEE THIS SYMBOL ON YOUR MACHINE OR IN THIS MANUAL, BE ALERT TO THE POTENTIAL FOR PERSONAL INJURY.

FOLLOW RECOMMENDED PRECAUTIONS AND SAFE OPERATING PRACTICES.

UNDERSTAND SIGNAL WORDS



DANGER



WARNING

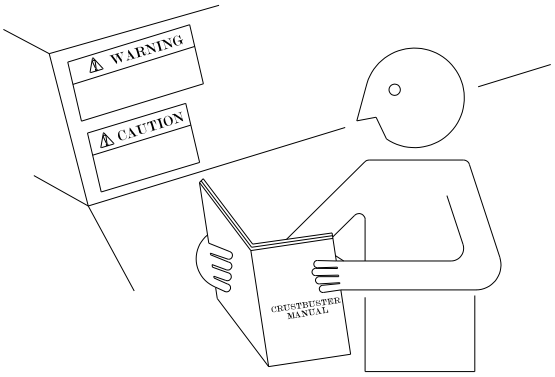


CAUTION

A SIGNAL WORD-DANGER, WARNING, OR CAUTION-IS USED WITH THE SAFETY-ALERT SYMBOL. DANGER IDENTIFIES THE MOST SERIOUS HAZARDS.

DANGER OR WARNING SAFETY SIGNS ARE LOCATED NEAR SPECIFIC HAZARDS. GENERAL PRECAUTIONS ARE LISTED ON CAUTION SAFETY SIGNS. CAUTION ALSO CALLS ATTENTION TO SAFETY MESSAGES IN THIS MANUAL.

FOLLOW SAFETY INSTRUCTIONS



CAREFULLY READ ALL SAFETY MESSAGES IN THIS MANUAL AND ON YOUR MACHINE SAFETY SIGNS. KEEP SAFETY SIGNS IN GOOD CONDITION. REPLACE MISSING OR DAMAGED SAFETY SIGNS. BE SURE NEW EQUIPMENT COMPONENTS AND REPAIR PARTS INCLUDE THE CURRENT SAFETY SIGNS. REPLACEMENT SAFETY SIGNS ARE AVAILABLE FROM YOUR CRUSTBUSTER DEALER.

LEARN HOW TO OPERATE THE MACHINE AND HOW TO USE CONTROLS PROPERLY. DO NOT LET ANYONE OPERATE WITHOUT INSTRUCTION.

KEEP YOUR MACHINE IN PROPER WORKING CONDITION. UNAUTHORIZED MODIFICATIONS TO THE MACHINE MAY IMPAIR THE FUNCTION AND/OR SAFETY AND AFFECT MACHINE LIFE.

IF YOU DO NOT UNDERSTAND ANY PART OF THIS MANUAL AND NEED ASSISTANCE, CONTACT YOUR CRUSTBUSTER DEALER.

OPERATE SAFELY

DO NOT OPERATE PLANTER WITH MORE THEN ONE PERSON ON THE TRACTOR.

DO NOT ALLOW ANYONE TO RIDE ON THE PLANTER.

DO NOT OPERATE CLOSE TO A DITCH OR CREEK.

DRIVE SLOWLY OVER ROUGH GROUND.

SHIFT THE TRACTOR INTO A LOWER GEAR WHEN OPERATING ON STEEP SLOPES.

IF YOUR TRACTOR IS EQUIPPED WITH A ROLL-GUARD SAFETY CANOPY AND A SEAT BELT, BE SURE TO KEEP YOUR SEAT BELT FASTENED WHEN OPERATING OR TRANSPORTING THE PLANTER.

HANDLE AND APPLY CHEMICALLY TREATED SEEDS ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. PROPERLY DISPOSE OF UNUSED TREATED SEEDS AND THEIR CONTAINERS.

ALWAYS SHUT OFF TRACTOR ENGINE AND SHIFT TO PARK WHEN LEAVING TRACTOR. REMOVE KEY WHEN LEAVING TRACTOR UNATTENDED.

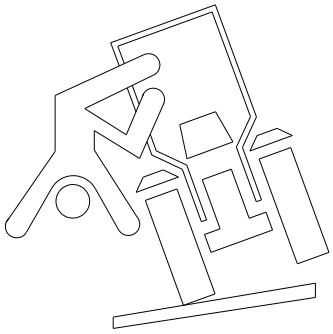
AVOID TIP-OVERS

USE A SEAT BELT UNDER ALMOST ALL OPERATING CONDITIONS.

AVOID HOLES, DITCHES, AND OBSTRUCTIONS WHICH MAY CAUSE THE MACHINE TO TIP, ESPECIALLY ON HILLSIDES.

NEVER DRIVE NEAR THE EDGE OF A GULLY OR STEEP EMBANKMENT-IT MIGHT CAVE IN.

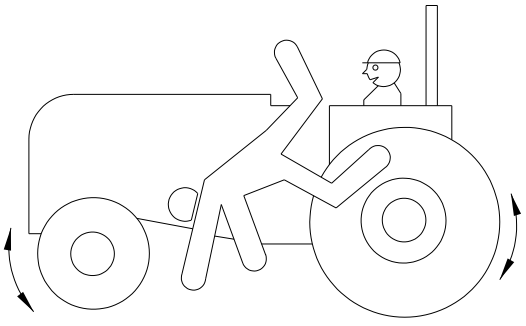
SLOW DOWN FOR HILLSIDES, ROUGH GROUND, AND SHARP TURNS.



KEEP RIDERS OFF MACHINE

ONLY ALLOW THE OPERATOR ON THE MACHINE. KEEP RIDERS OFF.

RIDERS ON MACHINE ARE SUBJECT TO INJURY SUCH AS BEING STRUCK BY FOREIGN OBJECTS AND BEING THROWN OFF OF THE MACHINE. RIDERS ALSO OBSTRUCT THE OPERATOR'S VIEW RESULTING IN THE MACHINE BEING OPERATED IN AN UNSAFE MANNER.



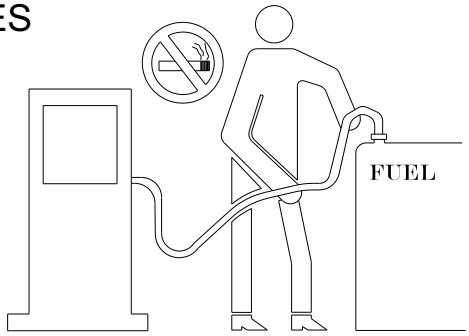
HANDLE FUEL SAFELY - AVOID FIRES

HANDLE FUEL WITH CARE: IT IS HIGHLY FLAMMABLE.

DO NOT REFUEL THE MACHINE WHILE SMOKING OR WHEN NEAR OPEN FLAME OR SPARKS.

ALWAYS STOP ENGINE BEFORE REFUELING MACHINE. FILL FUEL TANK OUTDOORS.

PREVENT FIRES BY KEEPING MACHINE CLEAN OF ACCUMULATED TRASH, GREASE, AND DEBRIS. ALWAYS CLEAN UP SPILLED FUEL.

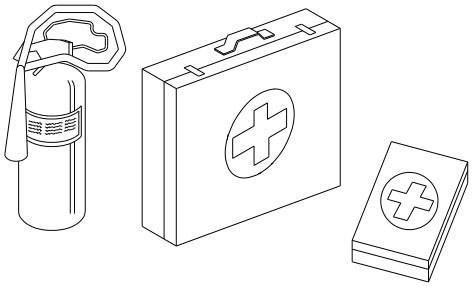


PREPARE FOR EMERGENCIES

BE PREPARED IF A FIRE STARTS.

KEEP A FIRST AID KIT AND FIRE EXTINGUISHER HANDY.

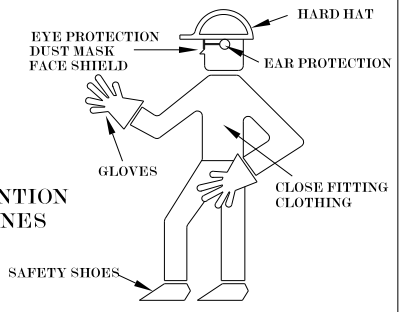
KEEP EMERGENCY NUMBERS FOR DOCTORS, AMBULANCE SERVICE, HOSPITAL, AND FIRE DEPARTMENT NEAR YOUR TELEPHONE.



WEAR PROTECTIVE CLOTHING

WEAR CLOSE FITTING CLOTHING AND SAFETY EQUIPMENT APPROPRIATE TO THE JOB.

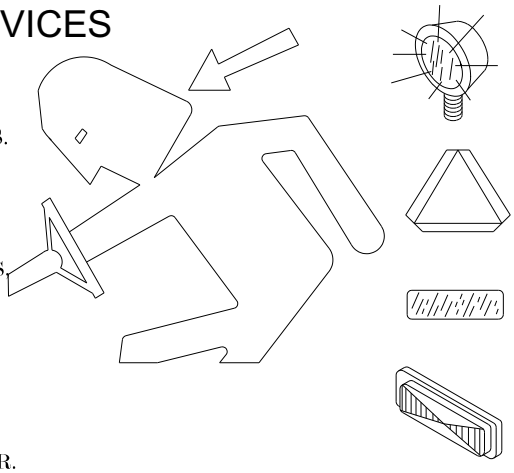
OPERATING EQUIPMENT SAFELY REQUIRES THE FULL ATTENTION OF THE OPERATOR. DO NOT WEAR RADIO OR MUSIC HEADPHONES WHILE OPERATING MACHINE.



USE SAFETY LIGHTS AND DEVICES

PREVENT COLLISIONS BETWEEN OTHER ROAD USERS, SLOW MOVING TRACTORS WITH ATTACHMENT OR TOWED EQUIPMENT, AND SELF-PROPELLED MACHINES ON PUBLIC ROADS. FREQUENTLY CHECK FOR TRAFFIC FROM THE REAR, ESPECIALLY IN TURNS, AND USE HAND SIGNALS OR TURN SIGNAL LIGHTS.

USE HEADLIGHTS, FLASHING WARNING LIGHTS AND TURN SIGNALS DAY AND NIGHT. FOLLOW LOCAL REGULATIONS FOR EQUIPMENT LIGHTING AND MARKING. KEEP LIGHTING AND MARKING VISIBLE AND IN GOOD WORKING ORDER. REPLACE OR REPAIR LIGHTING AND MARKING THAT HAS BEEN DAMAGED OR LOST. AN IMPLEMENT SAFETY LIGHTING KIT IS AVAILABLE FROM YOUR CRUSTBUSTER DEALER.



TRANSPORT SAFELY

IF EQUIPPED WITH ROW MARKERS, KNOW THE TRANSPORT HEIGHT OF YOUR MARKER ARM AND OVERHEAD WIRES. STOP SLOWLY.

ALWAYS RAISE THE JACK STANDS BEFORE TRANSPORTING.

RAISE PLANTER FULLY.

SHIFT THE TRACTOR INTO A LOWER GEAR WHEN TRANSPORTING DOWN STEEP SLOPES OR HILLS.

DO NOT TRANSPORT UNLESS THE PLANTER REFLECTORS, LIGHTS AND SMV EMBLEM ARE EASILY VISIBLE FROM THE REAR.

NEVER TRANSPORT THE PLANTER FASTER THAN 24 KM/H (15 MPH). REDUCE SPEED WHEN TRAVELING OVER ROUGH GROUND.

DO NOT TRANSPORT PLANTER WITH GRAIN IN BOX.

TOW LOADS SAFELY

STOPPING DISTANCE INCREASES WITH SPEED AND WEIGHT OF TOWED LOADS, AND ON SLOPES. TOWED LOADS THAT ARE TOO HEAVY FOR THE TRACTOR OR ARE TOWED TOO FAST CAN CAUSE LOSS OF CONTROL. CONSIDER THE TOTAL WEIGHT OF THE EQUIPMENT AND ITS LOAD.

OBSERVE RECOMMENDED MAXIMUM ROAD SPEEDS, OR LOCAL SPEED LIMITS WHICH MAY BE LOWER.

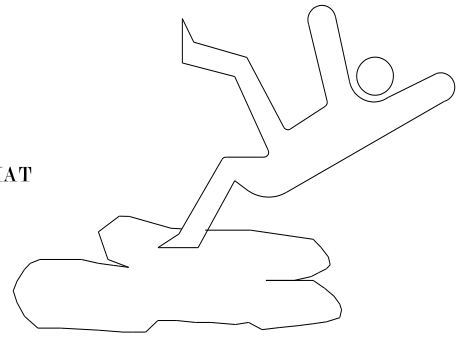
DO NOT TRAVEL MORE THAN 24 KM/H (15 MPH) AND DO NOT TOW LOADS MORE THAN 1.5 TIMES THE TRACTOR WEIGHT.

ENSURE THE LOAD DOES NOT EXCEED THE RECOMMENDED WEIGHT RATIO. ADD BALLAST TO RECOMMENDED MAXIMUM FOR TRACTOR, LIGHTEN THE LOAD, OR GET A HEAVIER TOWING UNIT. THE TRACTOR MUST BE HEAVY AND POWERFUL ENOUGH WITH ADEQUATE BRAKING POWER FOR THE TOWED LOAD. USE ADDITIONAL CAUTION WHEN TOWING LOADS UNDER ADVERSE SURFACE CONDITIONS, WHEN TURNING, AND ON INCLINES.

PRACTICE SAFE MAINTENANCE

UNDERSTAND SERVICE PROCEDURE BEFORE DOING WORK. KEEP AREA CLEAN AND DRY.

NEVER LUBRICATE, SERVICE, OR ADJUST MACHINE WHILE IT IS MOVING. KEEP HANDS, FEET, AND CLOTHING FROM POWER DRIVEN PARTS. DISENGAGE ALL POWER AND OPERATE CONTROLS TO RELIEVE PRESSURE. LOWER EQUIPMENT TO THE GROUND. STOP THE ENGINE. REMOVE THE KEY. ALLOW MACHINE TO COOL.



SECURELY SUPPORT ANY MACHINE ELEMENTS THAT MUST BE RAISED FOR SERVICE WORK.

KEEP ALL PARTS IN GOOD CONDITION AND PROPERLY INSTALLED. FIX DAMAGE IMMEDIATELY. REPLACE WORN OR BROKEN PARTS. REMOVE ANY BUILDUP OF GREASE, OIL, OR DEBRIS.

DISCONNECT BATTERY GROUND CABLE (-) BEFORE MAKING ADJUSTMENTS ON ELECTRICAL SYSTEMS OR WELDING ON MACHINE.

Safety

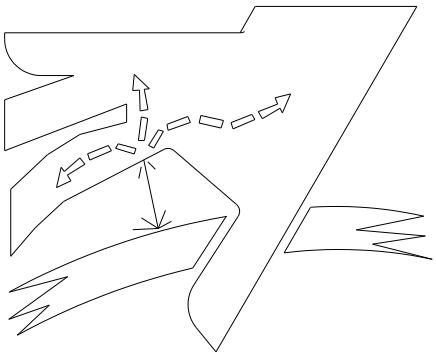
AVOID HIGH-PRESSURE FLUIDS

ESCAPING FLUID UNDER PRESSURE CAN PENETRATE THE SKIN CAUSING SERIOUS INJURY.

AVOID THE HAZARD BY RELIEVING PRESSURE BEFORE DISCONNECTING HYDRAULIC OR OTHER LINES. TIGHTEN ALL CONNECTIONS BEFORE APPLYING PRESSURE.

SEARCH FOR LEAKS WITH A PIECE OF CARDBOARD. PROTECT HANDS AND BODY FROM HIGH PRESSURE FLUIDS.

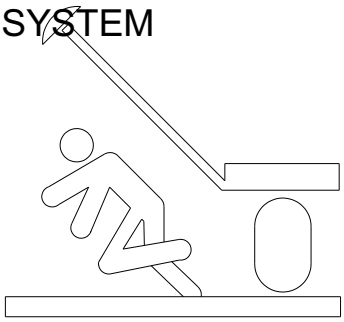
IF AN ACCIDENT OCCURS, SEE A DOCTOR IMMEDIATELY. ANY FLUID INJECTED IN THE SKIN MUST BE SURGICALLY REMOVED WITHIN A FEW HOURS OR GANGRENE MAY RESULT. DOCTORS UNFAMILIAR WITH THIS TYPE OF INJURY SHOULD REFERENCE A KNOWLEDGEABLE MEDICAL SOURCE.



CHARGE ROW MARKER HYDRAULIC SYSTEM

FALLING ROW MARKERS CAN CAUSE PERSONAL INJURY. BE SURE CYLINDERS AND ATTACHING HOSES ARE FULLY CHARGED WITH OIL BEFORE OPERATING. FAILURE TO DO SO WILL ALLOW MARKERS TO FALL RAPIDLY.

ALWAYS STAY CLEAR OF MARKERS WHEN RAISING OR LOWERING.



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. 

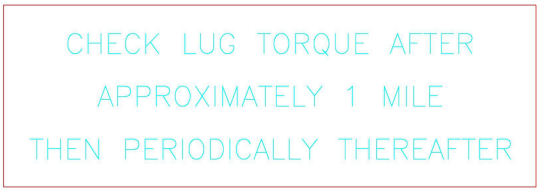
NOTICE: Used to address practices not related to physical injury. 

Safety Decals

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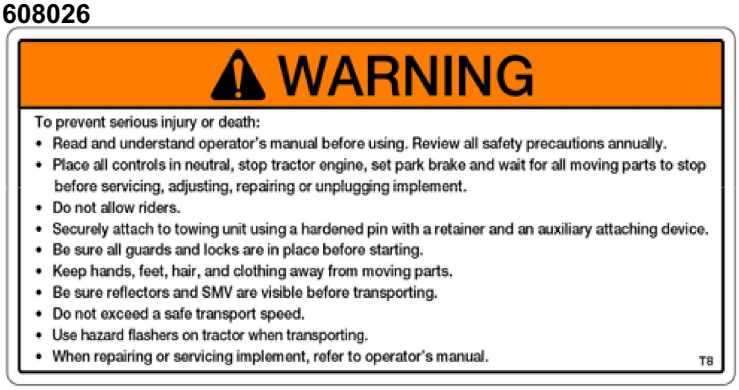
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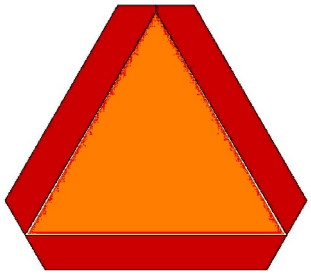
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Prepare Tractor

Tractor front end ballast is required for stability.

Tractor stability and controllability is reduced if driven too fast on rough terrain. SLOW DOWN.

Properly weight the tractor as recommended in the tractor operator's manual.

Position front and rear tractor tires as wide as possible and be centered in between planter rows.

Outside dual wheels on tractor may need to be removed to allow clearance for planter's land wheels.

The vacuum fan hydraulic motor requires a connection to a zero pressure case drain port on the tractor. Contact your tractor dealer to locate or equip your tractor with this case drain port.

Do not operate with a tractor equipped with an open center type hydraulic system. Consult your tractor dealer to determine what hydraulic system is on your tractor.

The planter is equipped with hazard warning lights and require a compatible 7 pin electrical connector on tractor.

To prepare tractor for the installation of hydraulic meter driven controller, population monitor or Can-Bus monitor system, see the appropriate section in the *"Controllers and Monitors"* manuals.

Planter Preparation

Lubricate all bearings on planter with multi-purpose grease. Grease zerks are located on front land wheel spindles and 1" diameter ball bearings throughout the meter drive.

Check one way clutch located on top end of land wheel arm. Latch should be sharp, square, and move freely. Spring should be functioning. Grease lightly.

DO NOT OVER GREASE!

Be sure drive chains are aligned, tight and lighty lubricated.

Check all fasteners. Tighten or replace loose or broken fasteners.

Inspect tires for cuts. Check inflation pressure. 60 psi is normal inflation pressure for 11L x 15 -8 ply tires. Consult tire side wall for recommended pressure.

Row Unit Preparation

Be Careful - Disc Blades Are Sharp!

To achieve optimum seed placement, perform the following checks and adjustments to each row unit.

The disc blades should contact each other at the "pinch point" of the blades. If the blades require adjusting, remove the gauge wheel and arm by loosening and removing the 5/8" diameter bolt located on the rear of the gauge wheel arm. To save time later, mark the eccentric adjuster so it can be positioned in the same position when it is re-installed.

Once the gauge wheel assembly is removed, the disc blade is exposed. Being careful not to lose the adjusting washers, remove the nut holding the blade on.

NOTE: The nut on the right side is right hand and the nut on the left side is left hand threaded.

While the disc blade is off, check the lower scraper for excessive wear. Replace scraper with new if the sides are grooved and rounded, or the lower tip is excessively worn. This scraper cleans the inside of the disc blades and protects the plastic tube. The scraper is located in a "P" shaped slot and is kept in place by the disc blades. Be careful the scraper does not accidentally fall off when the disc blades are removed.

Inspect and clean the seed tube and sensor while the disc blade is off. The seed tube may wear on the lower end on each side. To replace seed tube, remove vacuum meter *(See "Planter Storage Section").*

The seed tube is held in place with a pin in the top front of the seed tube. It also hooks on a pin located in the lower front of the seed tube. Use a bottle brush to clean the seed sensor. Insert the brush into the seed tube from the bottom and go in far enough to let the brush flare in the wider top part of the seed tube. Pull

the brush back out the bottom. Do this several times.

Inspect the sensor and its cable for breakage and fraying. Repair or replace if necessary.

To move disc blades closer, remove a shim washer from behind the blade. Re-install disc blade, put extra washers on outside of blade, install and tighten nut. Remove shim washer evenly from behind both blades until desired blade contact is achieved.

When the disc blades wear too much, they will rub the row unit casting before they can be adjusted properly. New disc blades will then need to be installed.

Re-install the gauge wheel arm assemblies. The 5/8" bolt should be left slightly loose so a 1 1/4" wrench can still turn the eccentric adjuster.

The eccentric adjuster is turned full turns until the gauge wheel contacts the disc blade. Once this coarse adjustment is made, the adjuster is used to "swing" the gauge wheel so the bottom half rubs the disc blade. DO NOT adjust too tight and cause excessive gauge wheel wear. Once the gauge wheel is adjusted, hold the 1 1/4" eccentric in position and tighten the 5/8" bolt.

Grease the pivot of each gauge wheel eccentric.

Hitching to Tractor

The planter is equipped to fit a 3 point category 3 quick hitch. Carefully hitch and secure planter to quick hitch. Lift planter with tractor 3 point controls.

Raise and secure rear support stands. Stands are held in place with 3/4" diameter pins and klik pins.

With tractor in a level location, level planter from side to side using lower 3 point arm adjustment.

Slowly lower planter with tractor 3 point controls until planter front land tires rest on ground. Frame height should be 20" to 22" from ground to bottom of frame. Parallel arms on planter units should be level or slightly down. There are 3 adjustment holes located at the top end of land wheel arm.

Remove 1" bolt and adjust land wheel to attain proper frame height. Re-install and tighten bolt. Slowly lower planter using tractor 3 point controls until front land wheels are on ground. Level planter front to back by adjusting top link of 3 point.

Hydraulic Requirements

The planter is equipped with a hydraulic powered fan. This fan provides vacuum for the seed meters.

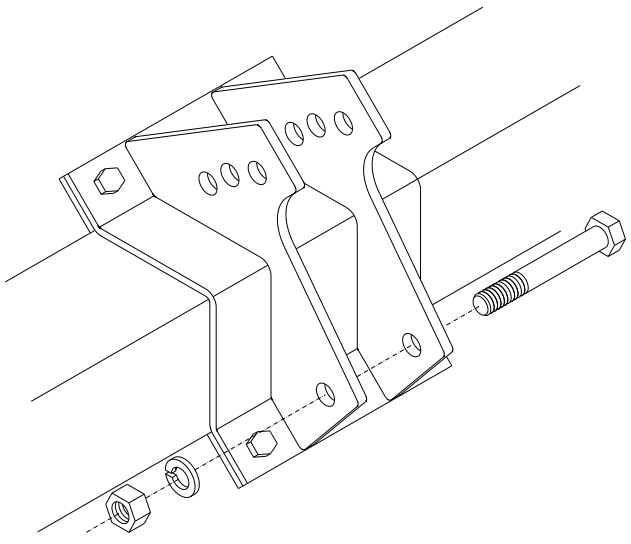
This motor is a high pressure, low oil volume motor. This motor is protected with check valves and motor seal case drain, but must still be connected to the tractor properly to avoid motor seal failure.

Connect the case drain fitting (small hose) to the zero pressure case drain port of the tractor. Always connect this hose first. Never connect this hose to a pressure source. *(See "Prepare Tractor" section.)*

Connect the oil return hose next. This hose may be connected to the SCV return coupler or to tractor hydraulic oil sump.

The hydraulic pressure hose is the last to be connected to the chosen SCV quick coupler.

If your planter is equipped with hydraulic meter drive, *see "Hydraulic Drive Manual"* for hydraulic hose connections.



Electrical Requirements

The planter hazard warning lights are connected to the 7 pin connector located on rear of tractor and should function with tractor lights.

Refer to the *"Controllers and Monitors"* manuals for the electrical connections required for these devices.

Meter Preparation

Choose the proper seed disk for the crop you are planting. Use *"Planter Settings"* on pages 15 and 19 to determine the recommended settings for each crop. These settings can then be tuned to your seed and conditions. Use the *"Setting Planting Rate"* section to determine the proper sprocket combination to use to achieve the desired seed population or seed spacing.

FOR METERS EQUIPPED WITH STANDARD SEED DISCS:

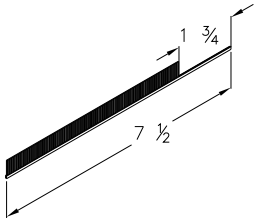
Be sure the correct seed disc and brush are installed in the meter for the crop being planted.

The right seed disc is one that each cell will hold one seed. If two seeds will fit in a cell, then a disc with smaller cell size should be used. Be sure to check for correct seed spacing in the field. Your seed dealer can also help with the selection of the proper seed disc and meter configuration. *See page 60 for the available seed disc.*

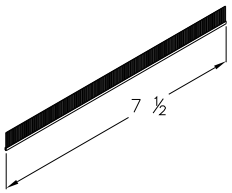
Remove seed disc by opening meter cover. Unfasten rubber latch and open black plastic cover to the right and forward. Cover can be completely removed by pulling off vacuum hose and removing cover from front hinge pin. The cover can be cleaned with soap and water. Inspect cover for cracks. Replace if necessary. Replace the cover seal if it is hard and cracked or worn. It is advisable to replace seals when new seed discs are installed. Check wiper or knocker located in front corner of cover and replace if necessary.

Remove seed disc from meter by holding disc and turning T-bar counter clockwise until it lines up with slot in seed disc. Remove disc and inspect seed disc. Replace seed discs if there is excessive wear on the edge or seed side of the seed disc. Also, replace if seed cells show excessive wear and cell size has increased significantly.

Inspect seed brush. Replace if gaps in the bristles allow seed to pass through. Brush should be positioned with trimmed edge on top. Brush should be touching the meter housing on the bottom. The meter is shipped from the factory with short brushes (Part # 611855). This short brush is recommended for peanuts and beans.



Long brushes are included with each planter for use with most other crops, such as corn, cotton and sorghum.



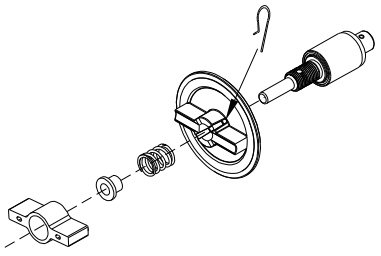
Clean dirt from behind seed baffle and brush holder. This dirt will cause these parts to flex and affect meter performance.

Set seed baffle position for the crop being planted. Large seed crops like corn, beans, cotton and peanuts should have seed baffle in the upper position. Small seed crops like sorghum, popcorn and beets should have the seed baffle in the lower position. To move baffle, hold down the tab on top of the baffle and rotate the baffle to the desired position.

Inspect and replace the round inner seal if necessary. Spray graphite on inner and outer seals.

Install seed disc by placing it on center hub of meter. Lock disc on by rotating black T-handle clockwise until it snaps on the end of the ramp on seed disc.

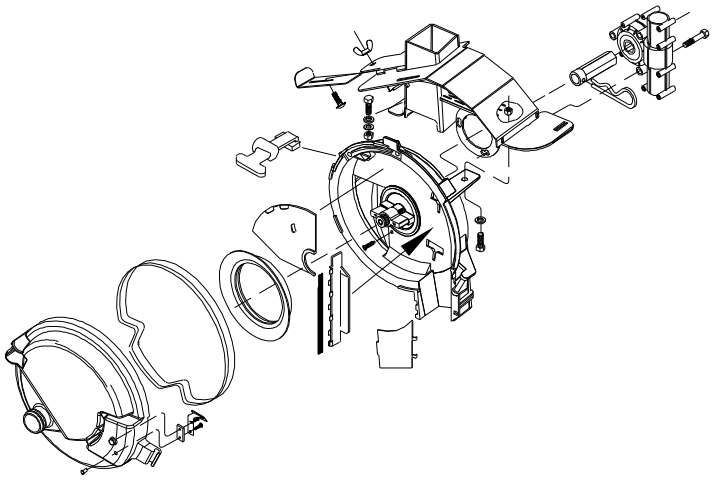
Proper clearance between the seed disc and meter housing is required so disc does not drag or seed does not leak out from behind disc. To adjust the meter hub, remove the spring pin. Turn the hub clockwise to move the seed disc closer to the housing. Turn counter clockwise to move seed disc away from housing if it was dragging. After proper clearance is attained, align slot in hub with hole in shaft and re-install spring pin.



Meter Preparation - *cont'd*

Install and latch cover to meter. Attach vacuum hose to cover.

Do these checks, adjustments and cleaning to all meters.



Doubles Eliminator
The doubles eliminator, or strap kit, is used to scrape multiple seeds from holes on seed disc so only one seed remains attached to each hole in seed disc. This doubles eliminator is used on most flat disc and seldom used on seed disc with seed cells.

To install doubles eliminator, unhook rubber latch and open plastic meter cover. Eliminator is attached to the two holes in the back upper part of aluminum meter housing. Insert post nut in back hole of meter and attach notched strap with screw provided in kit. Insert cam nut in front hole of housing and secure front of strap with another screw. DO NOT tighten screws.

For corn and sweet corn flat disc, use the bottom hole in doubles eliminator. For edible bean flat disc, use the top hole.

By turning the cam nut the doubles eliminator can be moved toward the center of the disc. As a starting point, adjust so high point on eliminator covers one-half of the hole in seed disc. Tighten both screws. Field adjustments may be necessary.

Be sure seed disc does not rub doubles eliminator. Adjust plate out to clear if necessary.

Re-install black plastic meter cover and latch.

Seed Disc Knocker
The seed disc knocker replaces the disc scraper that is located inside the plastic meter cover. This knocker is sometimes required to clean seed treatment and pieces of seed out of the holes in the seed disc.

To install knocker, open black plastic meter cover. Simply remove the two small screws attaching the scraper assembly and install knocker assembly with the same two screws.

Make sure knocker spring is functioning, knocker pivots freely, and points on knocker wheel line up with holes in seed disc.

Close meter cover and latch.

Start planting with these recommended planter settings, but remember to check actual seed placement and populations in the field.

Meter Preparation - *cont'd*

For meters equipped with eSet® meters, use the following instructions and guidelines:

720230

Singulator Assembly Installation Instructions

Parts List

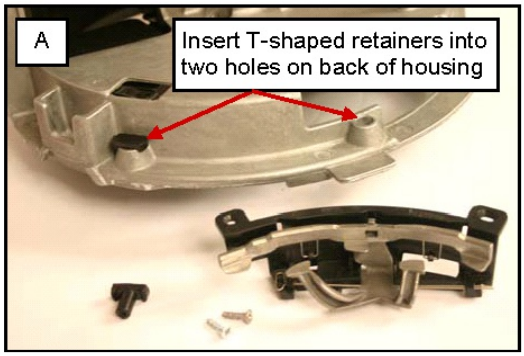
1. Singulator, (1)



Parts You Already Have

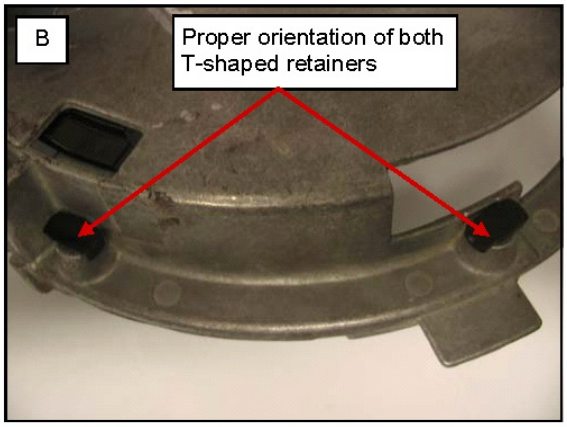
1. T-shaped retainers, (2)
2. Hi-Lo Screw, (2)

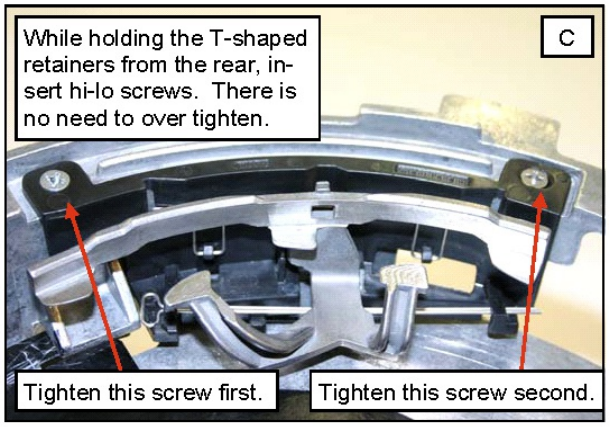




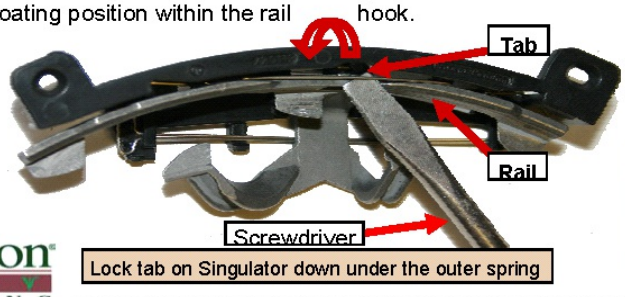
Step 1 **Singulator Installation**.
If liner is in place, the Singulator assembly can be mounted. Take the two T-shaped retainers that you already have and insert them into the two holes at the top of the meter.
(Fig. A & B).

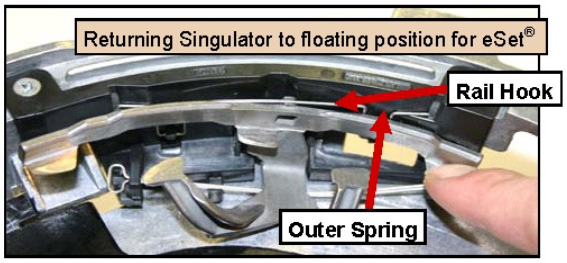
Step 2 Then place the Singulator into location and screw each of two #6 Hi-Lo flat head screws (Fig. C) into the T-shaped retainer. Do not over tighten; the plastic piece only needs to be slightly snug. This completes the installation of the Singulator Assembly.





Singulator: To lock the Singulator out of the way for other crops, simply push down while rotating back on the metal Singulator. Push the Singulator rail under the outer spring. Take a flathead screwdriver then pry up the spring and maneuver the spring over the singulator. Then the spring will click over the tab and snap into the locked position. To return to the unlocked position for eSet®, push down on the right hand lobe of the Singulator and the tab will walk out from under the spring. The Singulator will release into the floating position within the rail hook.





Precision PLANTING

995026

Questions? Check the website: www.precisionplanting.com or call us at 309-925-5050.

720185, 720117

Extractor Installation Instructions

Parts List

1. Seed Fragment Extractor (720185)
   (Use only with 720003 Corn Disk)
2. Specialty Fragment Extractor (720117)

1



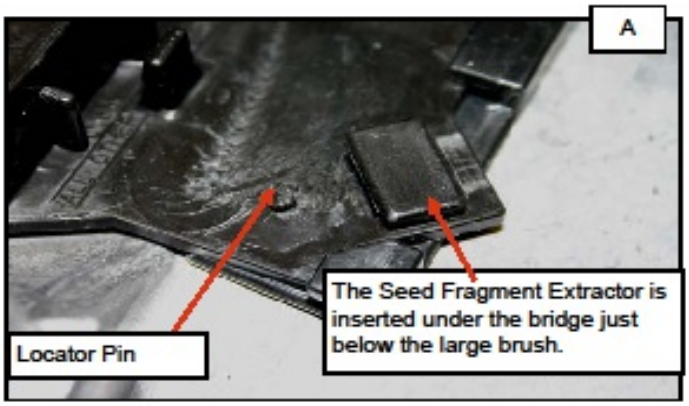
2



Step 1 **Seed Fragment Extractor Installation.**
The Seed Fragment Extractor is inserted at the bottom right corner of the liner (Fig A)

Step 2 **Seed Fragment Extractor Installation.**
Slide the component underneath the plastic bridge and over the locator pin until it locks into place (Fig B).

A



B



Note:
If the extractor is installed properly you will see a line going through the center of the holes. (Fig. C) If the line does not go through the center of the holes, check extractor placement for a bent or broken extractor.

C



Questions? Check the website: www.precisionplanting.com or call us at 309-925-5050.

995027

PLEASE DETACH THIS FORM AND KEEP FOR QUICK REFERENCE

eSet Operating Guidelines

Thank you for placing your confidence in Precision Planting's eSet. While this revolutionary system offers unparalleled operating simplicity, there are some guidelines to keep in mind for optimum performance.

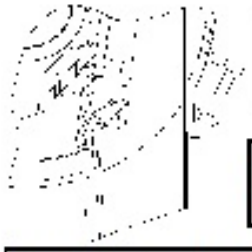
Vacuum Setting:

Bag Weight	Vacuum Level
Less than 60 lbs (>1350 seeds/lb)	15"
Greater than 60 lbs (<1350 seeds/lb)	18"

Lubricant: As with all vacuum planters, eSet works best with lubricated seed. Follow the general recommendation below and adjust as necessary to prevent excess accumulation of talc in the meter.

Seed characteristics	Application rate	Type of Lubricant
Less than 60 lbs (>1350 seeds/lb)	1/4 Cup per Unit	eFlow (80% Talc, 20% graphite)
Greater than 60 lbs (<1350 seeds/lb)	1/8 Cup per Unit	eFlow (80% Talc, 20% graphite)
Humid planting conditions	Increase rate as necessary	eFlow (80% Talc, 20% graphite)
Treated seed (Poncho/Cruiser)	Increase rate as necessary	eFlow (80% Talc, 20% graphite)

Disk Changes: The eSet disk is designed especially for planting corn. At this time, specialty crops should be planted with the standard John Deere disks you previously used. For limited amounts of sweetcorn, the eSet disk will plant fine. (If planting production fields of sweetcorn, contact Precision Planting for a special disk.) When planting specialty crops or using celled disks, verify that seeds are not interfering with the singulator assembly and remove singulator assembly if necessary. There are three parts that need to be adjusted when you are switching from the eSet disk to a JD disk. The Short Brush, the Seed Deflector and the Singulator. All three are described below.

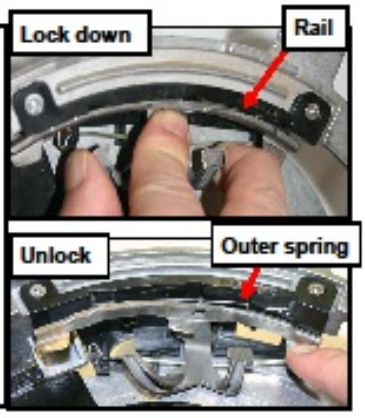


Seed Deflector:
eSet disk - up
standard disk - down

Brush Position for eSet Disk

Brush Position for all John Deere disks (soybeans and specialty crops)

Singulator: To lock the Singulator out of the way for other crops, push down while rotating back on the metal Singulator until the outer spring clicks over the tab on the rail. To return to the unlocked position for corn, push down on the right hand lobe of the singulator and the tab will walk out from under the spring.



Warning: For some larger crops like edible beans or kidney beans you may need to remove the entire singulator to avoid interference.

955011

eSet Meter Setup Guide by Crop

Crop	Size & Seed per lb.	Row Spacing	Vac Setting	Disk Used	Disk Part #	Singulator Position	Singulator	Singulator Part #	Lower Brush Position	Deflector Position "Paperclip"	Extractor	Extractor Part #	JD Wiper Used
Field Corn		All	18"-20"	eSet 30 Cell Corn	720003	Floating	Regular	720230	Angled	Up	Regular w/ pick	720185	No
Soybeans		15-20"	18"-20"	eSet 60 Cell Soybean	7202651	Floating	Regular	720230	Angled	Up	Regular w/ pick	720185	No
Soybeans		30"	8"-10"	JD Soybean 3 row cell disk	A42586	Locked Down	NA	NA	Straight	Down	NA	NA	Yes*
Sweet Corn	Small	30"	15"-18"	Small Sweet Corn/Popcorn	7200032	Floating	Specialty	720273	Angled	Up	Specialty w/o pick	720117	No
	Medium	30"	15"-18"	Regular Sweet Corn	7200033	Floating	Specialty	720273	Angled	Up	Specialty w/o pick	720117	No
	Large	30"	15"-18"	Large Sweet Corn	7200034	Floating	Specialty	720273	Angled	Up	Specialty w/o pick	720117	No
Sunflowers	Edible	30"	12"	eSet 30 Cell Corn	720003	Floating	Specialty	720273	Angled	Up	Specialty w/o pick	720117	No
	#1	30"	13"-14"	"C" Disc .125	7200032	Floating	Regular	720230	Angled	Up	Specialty w/o pick	720117	No
	#2	30"	12"-13"	"C" Disc .125	7200032	Floating	Regular	720230	Angled	Up	Specialty w/o pick	720117	No
	#3	30"	7"-8"	"B" Disc .115	7200031	Floating	Regular	720230	Angled	Up	Specialty w/o pick	720117	No
	#4	30"	7"-8"	"B" Disc .115	7200031	Floating	Regular	720230	Angled	Up	Specialty w/o pick	720117	No
Sugar Beets	15,000-18,000 seeds/lb		18"	Small Plate .062	720220	Floating	Specialty	720273	Angled	Up w/Hose**	Specialty w/o pick	720117	No
	13,000-15,000 seed/lb		20"	Large Plate .086	720220-1	Floating	Specialty	720273	Angled	Up w/Hose**	Specialty w/o pick	720117	No
Pumpkins	DelMonte/Libby	60"	13"	"B" Disc .115	7200031	Floating	Regular	720230	Angled	Up	Specialty w/o pick	720117	No
	Ornamental	60"	14"	"C" Disc .125, "D", or"E"	7200032	Floating	Regular	720230	Angled	Up	Specialty w/o pick	720117	No
Popcorn	Small		18"	"B" Disc .115	7200031	Floating	Regular	720230	Angled	Up	Specialty w/o pick	720117	No
	Medium		18"	"C" Disc .125	7200032	Floating	Regular	720230	Angled	Up	Specialty w/o pick	720117	No
	Large		18"	"D" Disc .135	7200033	Floating	Regular	720230	Angled	Up	Specialty w/o pick	720117	No
Small Indian Corn			18"	"B" Disc .115	7200031	Floating	Regular	720230	Angled	Up	Specialty w/o pick	720117	No
Squash			15"	"C" Disc .125	7200032	Floating	Regular	720230	Angled	Up	Specialty w/o pick	720117	No
Chili	12 seeds/ft-30" Row		15"	Small Sugar Beet Disc .062	720220	Floating	Specialty	720273	Angled	Up w/Hose**	Specialty w/o pick	720117	No
Canola	60,000-90,000 seeds/lb		8"-10"	Sugar Beet Disc	720220	Floating	Specialty	720273	Angled	Up w/Hose**	Specialty w/o pick	720117	No
Gourds			10"	"B" Disc .115	7200031	Floating	Regular	720230	Angled	Up	Specialty w/o pick	720117	No
Cucumbers			10"	Small Sugar Beet Disc	720220	Floating	Specialty	720273	Angled	Up w/Hose**	Specialty w/o pick	720117	No
PPI Cotton	50,000-60,000 pop.		18"-20"	Cotton Disc	720265	Floating	Regular	720230	Angled	Up	Specialty w/o pick	720117	No
Sorghum	13,000-16,000 seeds/lb		11"-12"	Large Sugar Beet	720220-1	Floating	Regular	720230	Angled	Up w/Hose**	Specialty w/o pick	720117	No
	Pop:40,000 Non-Irrigated		11"-12"	Large Sugar Beet	720220-1	Floating	Regular	720230	Angled	Up w/Hose**	Specialty w/o pick	720117	No
	Pop:80,000 Irrigated		11"-12"	Large Sugar Beet	720220-1	Floating	Regular	720230	Angled	Up w/Hose**	Specialty w/o pick	720117	No
Snap Beans	100,000 Pop/30" Rows		18"-20"	eSet 60 Cell Soybean	720265-1	Floating	Specialty	720273	Angled	Up	Specialty w/o pick	720117	No
Peanuts	Medium (Spanish or Runner)		10"	JD Large Edible Bean	H136092	Remove	NA	NA	Straight	Down	NA	NA	Yes*
	Large (Virginia)			JD Virginia Peanut	H138722	This disc requires removal of eSet liner & singulator, & re-installation of JD baffle A51838,insert A5183, & brush AA37206							

eFlow Lubricant: Use on all seeds at 1/8-1/4 cup per bag of seed depending on seed size. Do not over apply.

*JD Wiper: The wiper is not needed for eSet, however it does not need to be removed. It should be left in the lid, so if the meter is switched back to a regular John Deere disc, it is there.

**1/4" ID x 1" long hose - Part #: 720281

COTTON:
New eSet Cotton Disk Available for singluated and 2-hill drop cotton. Use specialty extractor. If using JD cotton disk in eSet-equipped housing:
- Remove singulator
- Rotate brush
- Lock down seed deflector

EDIBLE BEAN:
- Use JD bean disc
- Remove singulator
- Lock down seed deflector
- Rotate brush

MILO:
- Use JD milo disc
- Lock singulator down
- Lock down seed deflector
- Rotate brush

PEANUTS:
- Use JD disc
- Remove singulator
- Lock down seed deflector
- Rotate brush

PELLETED SUGAR BEETS:
New eSet Sugar beet disk available. Replace standard extractor with specialty extractor.

- If using JD sugar beet disc:
- Lock singulator down
- Lock down seed deflector
- Rotate brush

SEEDCORN:
Use standard corn disk. Use hole plugs to reduce population on male rows or drill additional holes to increase male row population.

SOYBEANS:
- Use JD soybean disc
- Lock singulator down
- Rotate brush
- Lock down seed deflector

SUNFLOWERS:
Edible size use Standard e-Set corn disk
For #1 (large) and #2 use 7200032
For #3 and #4 (small) use 7200031
For disks 7200031 and 7200032, replace the standard extractor with the specialty extractor.

PUMPKINS:
For large-seeded ornamental pumpkins, use the standard eSet disk. Use hole plugs to adjust population.

For "pie" pumpkins, call with size information and we can determine the preferred eSet disk for your seeds.

POPCORN:
Less than 4,000 seeds per pound
- Use e-Set specialty disc 7200031
- If using JD popcorn disc rotate brush and lock-out deflector and singulator)

More than 4,000 seeds per pound - e-Set disc:
- 7200031 - small popcorn
- 7200032 - regular popcorn
- 7200033 - large popcorn
- Replace standard seed extractor with specialty seed extractor when using specialty e-Set plates

SWEETCORN:
E-Set disc to use:
- 7200033 - small sweetcorn
- 7200034 - regular sweetcorn
- 7200035 - large sweetcorn

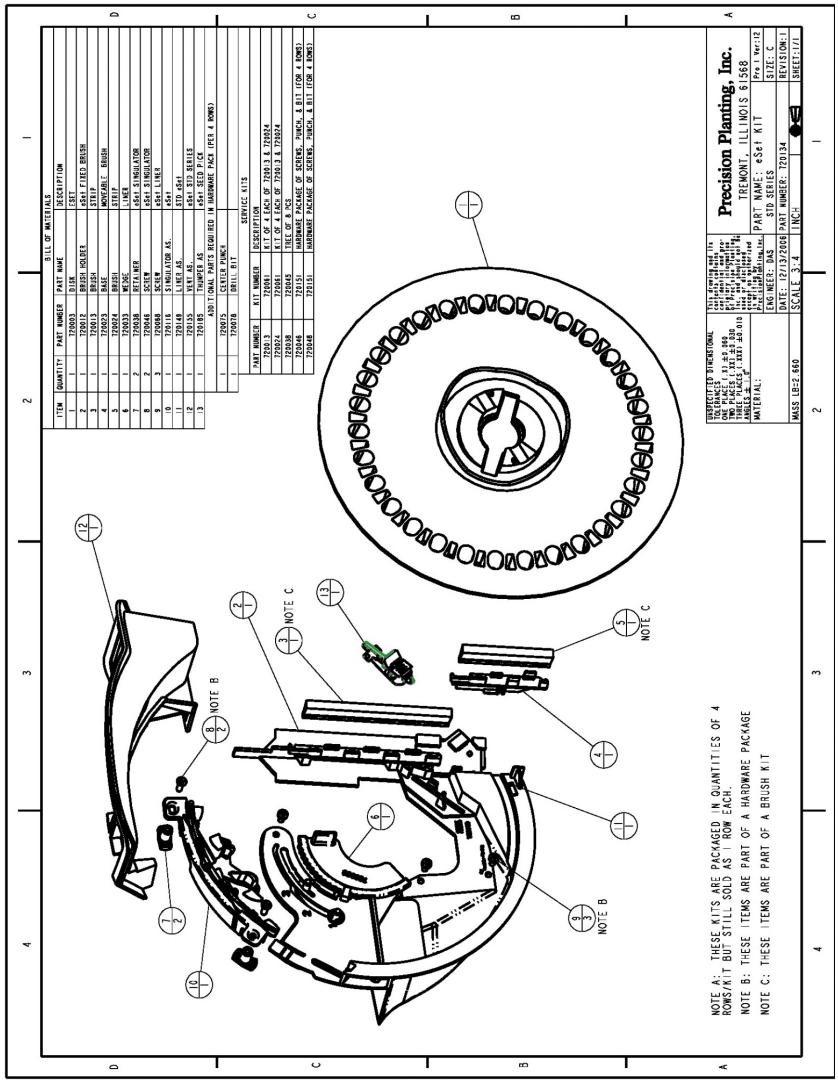
Replace standard seed extractor with specialty seed extractor

- Use ¼ to ½ cup e-Flow per unit
- Run varieties on Meter Max stand to verify disc size and vacuum level (vacuum level 12" to 15")
- For small plots or strips of sweetcorn the regular e-Set will work adequately

Specialty Disk Extractor
Because of the difference in hole size, the "pick" on the standard Seed Extractor needs to be modified. If you are using any other eSet Disk (7200031 ,7200032 ,7200033, 7200034 or 7200035) use the Specialty Disk Extractor which is part number 720117. Please make sure our order desk knows you are using the specialty disk and need the 720117.

Hole Plugs
We have developed plugs that can be used to close off holes in the eSet disk to match lower population needs for some specialty crops. Just insert the appropriate number of rubber plugs in to the holes on the back side of the disk and tighten a screw to lock them into position. These plugs are available in packages of 15 plugs. The part number is 720222.

Precision Meter Parts



Planter Settings By Crop								
Crop	**Seeds / lb.**	**Disc # & Name**	**Cell #**	**Brush**	**Baffle**	**Doubles Elim.**	**Knock-out**	**Vacuum Setting**
Corn	<1500 flat	#612093 Promax 40	40	long	up	yes	yes #612358	15-18
	<1500 round	#611970 standard corn	30	long	up	no	no	10-12
	1500-2800	#611988 small corn	30	long	up	no	no	6-12
	>2800	#612036 sunflower - popcorn	30	long	up	no	no	10-13
sweet corn	<4000	#612093 Promax 40	40	long	up	no	yes #612358	9-12
	>4000	#612085 small sweet corn	40	long	up	no	yes #612358	9-12
popcorn	<4500	#612036 sunflower - popcorn	30	long	up	no	yes #612358	9-12
	>4500	#612176 sorghum	45	long	up	no	yes #612358	9-12
sunflower-oil type	size 2 to 4	#612036 sunflower - popcorn	30	long	down	no	no	6-11
sunflower-confectionary	<3200	#612093 Promax 40	40	long	up	yes	yes #612341	9-13
	>3200	#612085 sweet corn	40	long	up	yes	yes #612341	9-12
cotton	4000-6000	#612002 cotton	64	long	up	no	no	8-10
	<4000	#612143 small edible bean	50	long	up	yes	yes #612341	12-18
sorghum - low rate	<14,000	#612176 sorghum	45	long	down	no	yes #612341	8
	14,000-18,000	#612010 medium sugar beets	45	long	down	no	yes #612341	8
	>18,000	#612119 small sugar beets	45	long	down	no	yes #612341	8
sorghum-high rate	10,000-16,000	#612127 high rate sorghum	90	long	down	no	yes #612341	8
soybeans	<3500	#611996 soybean	108	long	up	no	no	8
	>3500	#612002 cotton - soybean	64	long	up	no	no	8
sugar beet	#2 - < 1/8" dia.	#612119 small sugar beet	45	long	down	no	yes #612341	1-3
	#3- 1/8" to 9/64" dia.	#612010 small/ medium sugar beet	45	long	down	no	yes #612341	1-3
	#4 - > 9/64" dia.	#612028 large sugar beet	45	long	down	no	yes #612341	2-4
edible bean	small 1700 - 3000	#612069 edible bean -small cell	108	long	up	no	no	6
	small 1700 - 3000	#612143 edible bean - small flat	50	long	up	yes	yes #611905	12-18
	medium 900 - 2200	#612051 edible bean -medium cell	56	short	up	no	no	6
	medium 900 - 2200	#612150 edible bean - medium flat	50	long	up	yes	yes #611905	14-20
	large 600 - 1300	#641456 edible bean - large cell	50	short	up	no	no	8
	large 600 - 1300	#612135 edible bean -large flat	50	long	up	yes	yes #611905	18-22
peanut	Spanish & runner 700 - 1200	#641456 edible bean - large cell	50	short	up	no	no	6-12
	Virginia 500-800	#612077 Virginia peanut	46	short	up	no	no	8-14

Operating Planter

Setting Planting Rate - Sprocket Style Drive

Note: If your planter is equipped with hydraulic drive, use the procedure outline in *"Planter Drive Controller"* manual to set your planting rate.

1. Choose the chart which corresponds to the number of cells in the seed plate or disc being used. *Charts are on pages 24 to 45.*

2. Select the column for your spacing and row configuration. Move down this column to find the desired seed population. You may have to continue down into the "low rate" portion of this column.

3. To the left of this population is the necessary sprockets required to obtain this rate. These sprockets are listed under the C-D-E & F heading.

4. Refer to "Sprocket Locations" drawing for the position of C-D-E & F sprockets.

   Sprockets C and D are located in the "Sprocket Box" as a cluster. To change position of these clusters so desired sprocket is used, simply move the throw-out lever (or derailleur lever) to "shift position". Pull the spring loaded collar outward with two fingers and slide the shifter knob to the desired sprocket position. Move the derailleur lever back "To Drive" position. Look to make sure chain is fully engaged on desired sprocket.

   The shifter knob and corresponding derailleur lever for "C" sprocket is located in bottom half of "Sprocket Box." The shifter knob and derailleur lever for "D" sprocket is in top half of "Sprocket Box."

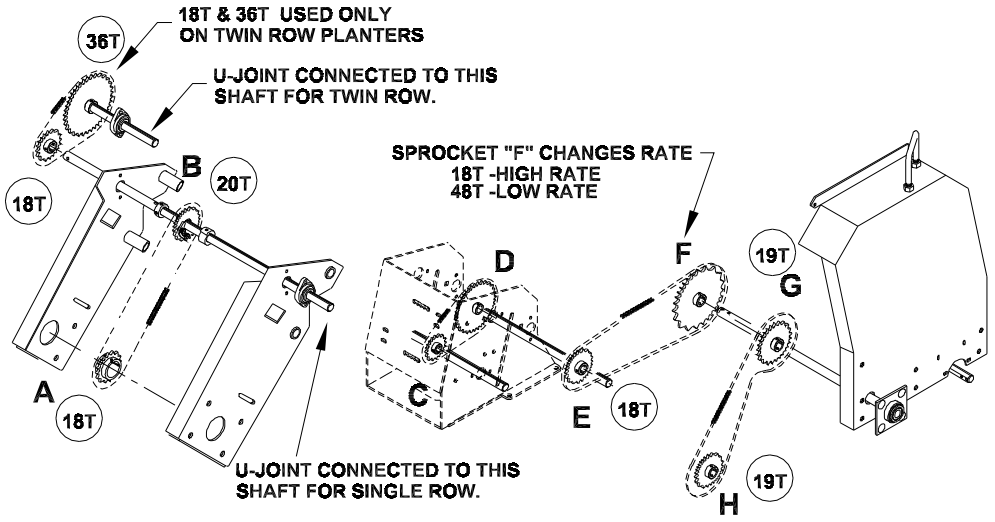
Note: Move only one derailleur lever "To Shift" position at a time.

5. Sprocket "E" should never need changed.

6. Sprocket "F" will be changed when going from high and low rates. To change this sprocket, loosen ½" bolts holding two idlers on side of "Sprocket Box." Flip open klik pin holding sprocket and remove sprocket. Install desired sprocket and attach with klik pin. Check sprocket alignment. Install chain and tighten using the two idlers on "Sprocket Box."

7. Re-check all sprocket sizes!

IMPORTANT:
Check actual seed rates in the field. The right hand column of the population charts shows seed spacing for that population.



Operating Planter *-cont'd*

General guidelines to planting:

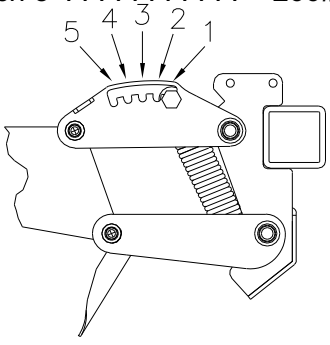
1. Lower planter completely. Always make sure to fully raise and lower planter. Land wheels must be in good firm contact with the ground to provide even planting and consistent drive of seed meters.

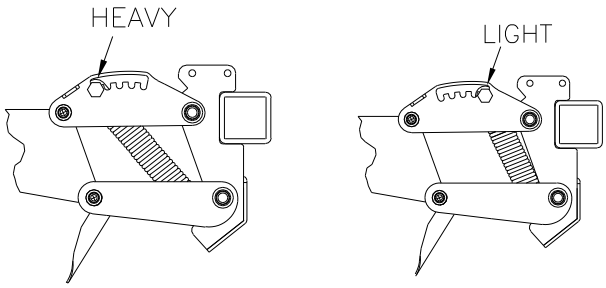
2. Planter must be level side to side and front to back. Check frame height so planter parallel arms are operating at a level position.

3. Adjust spring force only enough to provide disc blade penetration and firm pressure on side gauge wheels and presswheels. Too much spring pressure will cause frame and land wheels to float off the ground.

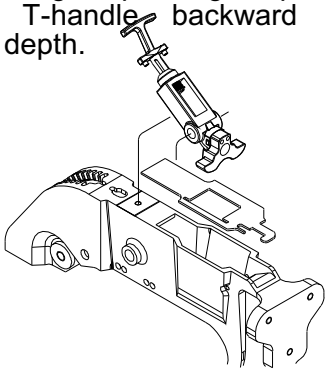
   The parallel linkage opener design assures the operator the opener blades and presswheel operate on the same level throughout the range of up and down travel. Due to the location of the down pressure spring, the pressure applied to the opener remains relatively constant in the entire range of travel. Changing the spring position from the first (top) notch to the last (bottom) notch provides 5 different levels of force. Each notch represents approximately these amounts of down pressure:

	1 Spring	2 Springs
Notch 1 (top)	120#	200#
Notch 2	160#	260#
Notch 3	200#	330#
Notch 4	240#	400#
Notch 5	260#	500#

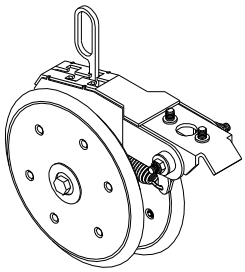




4. Adjust planting depth with T-handle position in notches on back of opener casting. Each notch changes planting depth by 1/4". Moving T-handle backward increases planting depth.

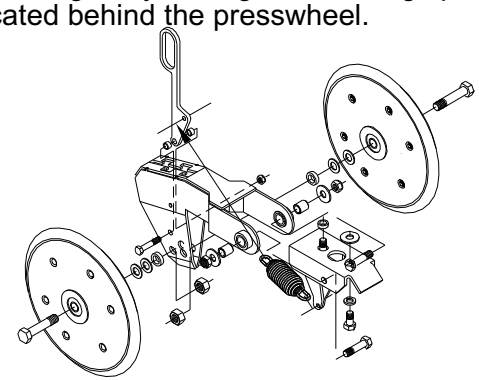


5. Change the spring pressure on the rear twin presswheels by moving the handle located between the presswheels.



   To center the presswheels over the seed furrow, loosen the front bolt that goes through the presswheel mount and into the bottom of the opener casting. Position the presswheel on center and tighten front bolt.

   The distance between the presswheels can be changed by adding or removing spacers located behind the presswheel.



6. To fill seed boxes, unlatch rubber hold down strap, lift lid and latch open. Make sure inside of box is clean and free of debris. Evenly distribute seed across entire length of box.

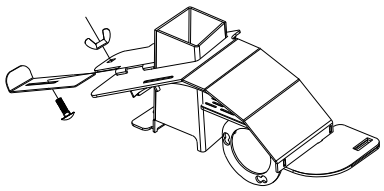
   Be careful when handling treated seed. Wear appropriate protective clothing. Follow all precautions listed on chemical label.

Seed treatments should be applied before talc is added to seed. Talc is used to lubricate the seed as it flows through the seed meter. Add and mix talc with seed as the box is filled. Normal seed and planting conditions require approximately one cup of talc for three bushel of seed. Heavy, sticky seed treat and humid weather will require more talc.

The purpose of the talc is to keep seed treatments from sticking to and plugging seed disc and meter. Seed disc can be removed and cleaned with soap and water. Dry disc, re-install and lightly lubricate outside of disc with graphite.

7. Use good quality clean seed. Plant a short distance and check seed spacing to confirm you are metering the correct rate. Also, make sure only one seed is in each cell of seed disc.

   If it is necessary to remove seed disc while seed is in the seed box and feed tube, the gate on the lower end of feed tube can be closed and secured with wing nut.



8. Use the SCV flow control to change speed on vacuum fan motor. (Planter setting recommendations are listed on *pages 15 and 19*. Choose the settings depending on which meter your planter is equipped with.)

   Start with the lowest vacuum and increase until skips are eliminated.

   The fan hydraulic motor only requires 5 gallon per minute oil flow to run at full speed. Keep oil flow as low as possible.

9. Always be moving forward when lowering planter in field. Never back up with planter lowered. Plugged seed tubes and damaged planter units can occur when backing or turning with planter lowered.

Unhitching Planter From Tractor

Choose a level, solid area to place planter. Lower planter until land wheels just touch the ground. Lower both rear stands to the ground and secure with 3/4" pin and klik pins. Block land wheels, front and rear, to prevent planter from rolling and bending rear stands. Make sure there is no weight on the tractor 3-point hitch. Carefully unlatch tractor 3-point. Lower 3-point hitch so it clears the planter hitch pins. Unplug all hydraulic and electrical connections to planter. Secure wires and hoses so they do not get caught, pulled or pinched. Slowly and carefully move tractor forward away from planter.

Planter Storage

CAUTION: Wear appropriate protective clothing when handling treated seed and pesticides.

Empty all unused seed from the seed boxes and meters. Clean dust and debris from planter. Carefully clean with compressed air and soap and water. Use caution around electronics and bearings if a power washer is used. Dry thoroughly.

Grease bearings and gauge wheel arm pivots. Lubricate chains.

Release spring pressure from presswheeels by moving adjustment lever to front notch.

Touch up chipped or worn paint to prevent rust.

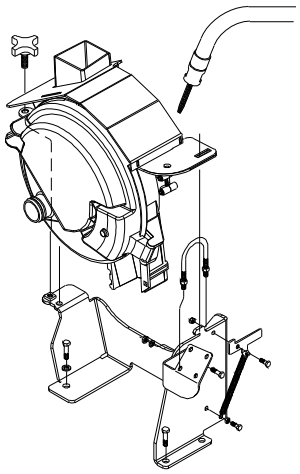
If possible, store planter indoors out of the elements. Unhitch planter from tractor. *See "Unhitching planter from tractor section".*

Jack land wheels up and block under wheel arm to keep tires slightly off the ground.

Remove the seed meter assemblies and store them in a cool, dry area. To remove the meter assembly, first remove the grain hose from the seed box by loosening the worm drive clamp and removing hose. The vacuum hose is removed from the meter cover by simply twisting and pulling it off.

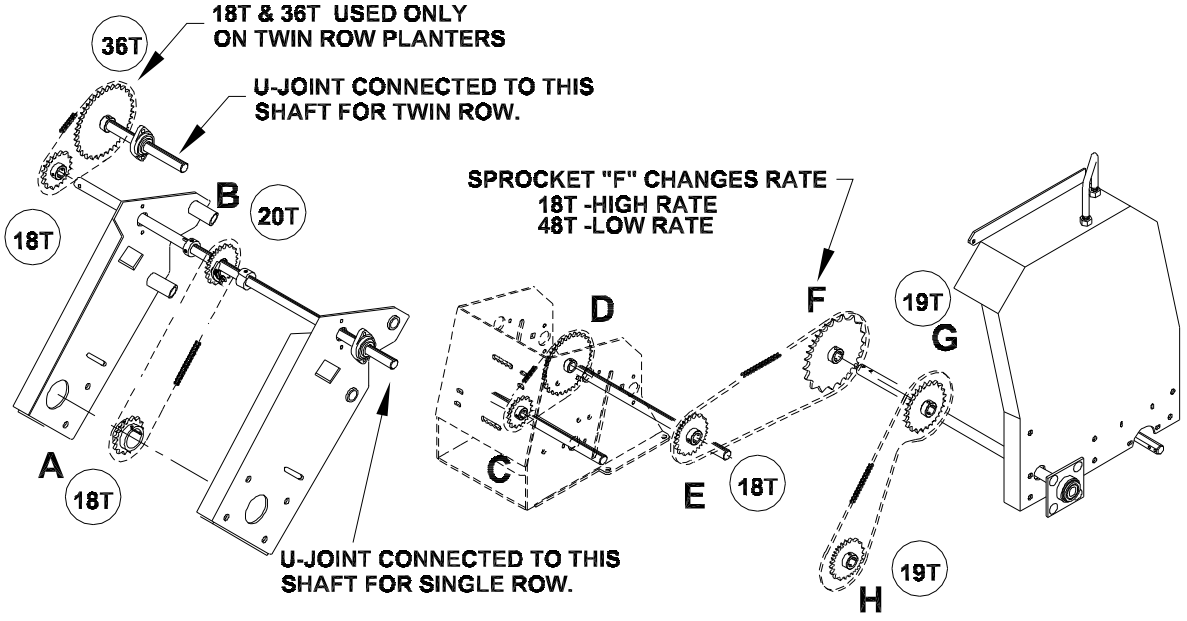
Remove flex drive cable by turning 1/4 turn and pulling out. Protect exposed end of cable with plastic wrap.

The meter and cover assembly is now removed by removing the thumbscrew on the rear of the meter assembly. Next, lift the spring loaded lever located at the front left corner of the meter. Push the meter to the right to remove it from the front hold down notch. Once clear of this notch, raise meter assembly straight up.



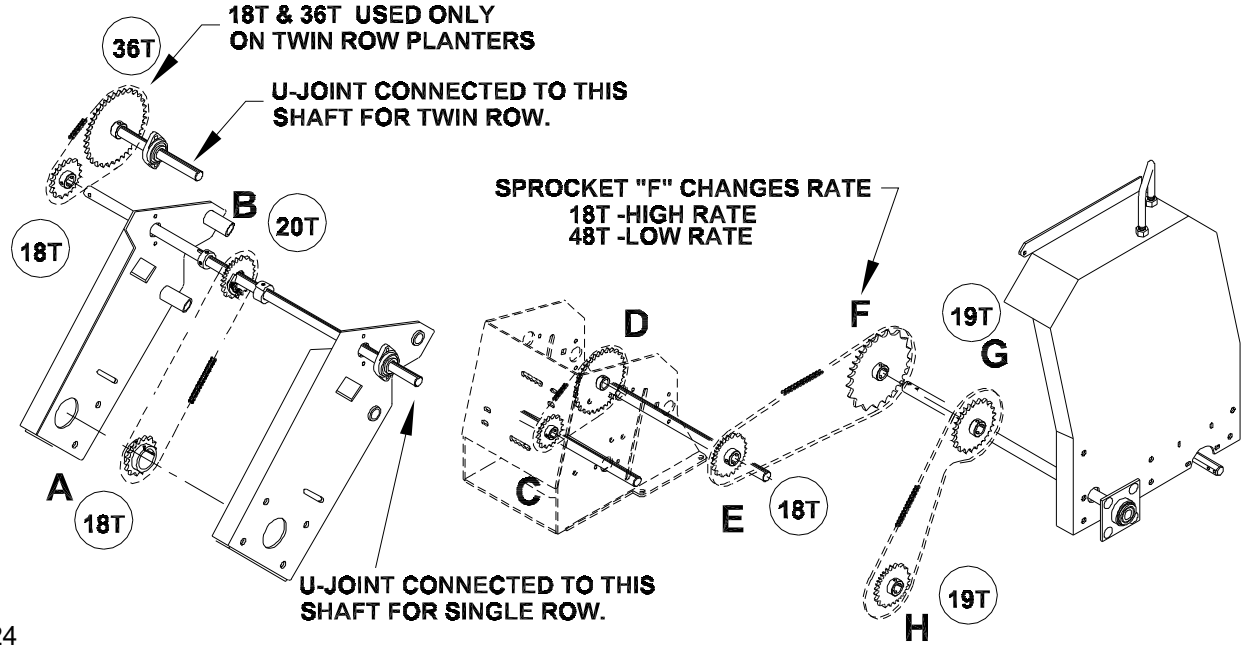
Planter Populations - 30 Cell Plate
High Rate

C	D	E	F	TWIN ROW and SINGLE ROW 30"ROW POP.	36"ROW POP.	38"ROW POP.	40"ROW POP.	SINGLE ROW SEED SPACING IN EACH ROW	TWIN ROW SEED SPACING IN EACH ROW
35	24	18	18	86516	72097	68295	64894	2.4	4.8
35	25	18	18	83055	69213	65563	62298	2.5	5.0
35	26	18	18	79861	66551	63041	59902	2.6	5.2
35	27	18	18	76903	64086	60706	57684	2.7	5.4
35	28	18	18	74157	61797	58538	55623	2.8	5.6
29	24	18	18	71685	59737	56587	53769	2.9	5.8
29	25	18	18	68817	57348	54323	51618	3.0	6.1
29	26	18	18	66171	55142	52234	49633	3.2	6.3
29	27	18	18	63720	53100	50300	47795	3.3	6.6
29	28	18	18	61444	51204	48503	46088	3.4	6.8
24	24	18	18	59325	49438	46831	44499	3.5	7.0
24	25	18	18	56952	47460	44957	42719	3.7	7.3
24	26	18	18	54762	45635	43228	41076	3.8	7.6
24	27	18	18	52734	43945	41627	39554	4.0	7.9
24	28	18	18	50850	42375	40141	38142	4.1	8.2
20	24	18	18	49438	41198	39026	37082	4.2	8.5
20	25	18	18	47460	39550	37464	35599	4.4	8.8
20	26	18	18	45635	38029	36024	34230	4.6	9.2
20	27	18	18	43945	36621	34689	32962	4.8	9.5
20	28	18	18	42375	35313	33450	31785	4.9	9.9
16	24	18	18	39550	32959	31220	29666	5.3	10.6
16	25	18	18	37968	31640	29972	28479	5.5	11.0
16	26	18	18	36508	30423	28819	27384	5.7	11.5
16	27	18	18	35156	29297	27751	26370	5.9	11.9
16	28	18	18	33900	28250	26760	25428	6.2	12.3



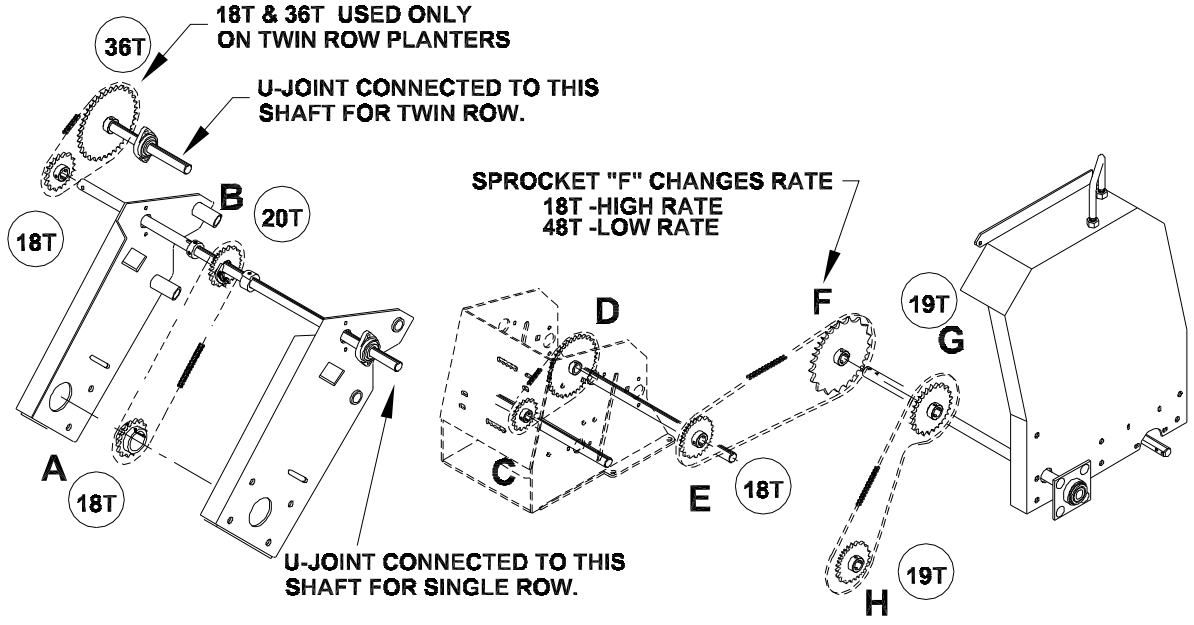
Planter Populations - 30 Cell Plate
Low Rate

C	D	E	F	TWIN ROW and SINGLE ROW 30"ROW POP.	36"ROW POP.	38"ROW POP.	40"ROW POP.	SINGLE ROW SEED SPACING IN EACH ROW	TWIN ROW SEED SPACING IN EACH ROW
35	24	18	48	32444	27036	25610	24335	6.4	12.9
35	25	18	48	31146	25955	24586	23362	6.7	13.4
35	26	18	48	29948	24957	23640	22463	7.0	14.0
35	27	18	48	28839	24032	22765	21631	7.2	14.5
35	28	18	48	27809	23174	21952	20859	7.5	15.0
29	24	18	48	26882	22402	21220	20163	7.8	15.6
29	25	18	48	25807	21505	20371	19357	8.1	16.2
29	26	18	48	24814	20678	19588	18612	8.4	16.9
29	27	18	48	23895	19912	18862	17923	8.7	17.5
29	28	18	48	23042	19201	18189	17283	9.1	18.1
24	24	18	48	22247	18539	17561	16687	9.4	18.8
24	25	18	48	21357	17798	16859	16020	9.8	19.6
24	26	18	48	20536	17113	16211	15403	10.2	20.4
24	27	18	48	19775	16479	15610	14833	10.6	21.1
24	28	18	48	19069	15891	15053	14303	11.0	21.9
20	24	18	48	18539	15449	14635	13906	11.3	22.6
20	25	18	48	17798	14831	14049	13350	11.7	23.5
20	26	18	48	17113	14261	13509	12836	12.2	24.4
20	27	18	48	16479	13733	13009	12361	12.7	25.4
20	28	18	48	15891	13242	12544	11919	13.2	26.3
16	24	18	48	14831	12359	11708	11125	14.1	28.2
16	25	18	48	14238	11865	11239	10680	14.7	29.4
16	26	18	48	13690	11409	10807	10269	15.3	30.5
16	27	18	48	13183	10986	10407	9889	15.9	31.7
16	28	18	48	12713	10594	10035	9535	16.4	32.9



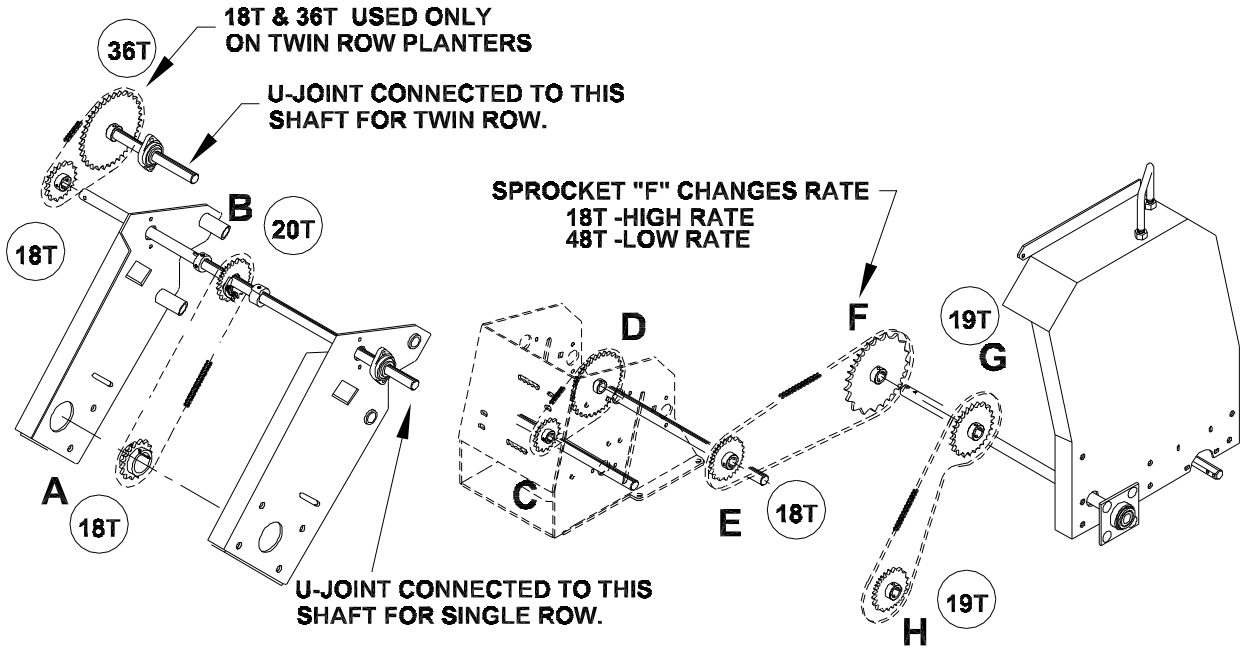
Planter Populations - 36 Cell Plate
High Rate

C	D	E	F	TWIN ROW and SINGLE ROW 30"ROW POP.	36"ROW POP.	38"ROW POP.	40"ROW POP.	SINGLE ROW SEED SPACING IN EACH ROW	TWIN ROW SEED SPACING IN EACH ROW
35	24	18	18	103819	86516	81954	77873	2.0	4.0
35	25	18	18	99667	83056	78675	74758	2.1	4.2
35	26	18	18	95833	79861	75649	71883	2.2	4.4
35	27	18	18	92284	76903	72848	69220	2.3	4.5
35	28	18	18	88988	74157	70246	66748	2.3	4.7
29	24	18	18	86022	71685	67904	64523	2.4	4.9
29	25	18	18	82581	68818	65188	61942	2.5	5.1
29	26	18	18	79405	66171	62681	59560	2.6	5.3
29	27	18	18	76464	63720	60359	57354	2.7	5.5
29	28	18	18	73733	61444	58204	55306	2.8	5.7
24	24	18	18	71190	59325	56197	53398	2.9	5.9
24	25	18	18	68343	56952	53949	51263	3.1	6.1
24	26	18	18	65714	54762	51874	49291	3.2	6.4
24	27	18	18	63280	52734	49953	47465	3.3	6.6
24	28	18	18	61020	50850	48169	45770	3.4	6.9
20	24	18	18	59325	49438	46831	44499	3.5	7.0
20	25	18	18	56952	47460	44957	42719	3.7	7.3
20	26	18	18	54762	45635	43228	41076	3.8	7.6
20	27	18	18	52734	43945	41627	39554	4.0	7.9
20	28	18	18	50850	42375	40141	38142	4.1	8.2
16	24	18	18	47460	39550	37464	35599	4.4	8.8
16	25	18	18	45562	37968	35966	34175	4.6	9.2
16	26	18	18	43809	36508	34583	32861	4.8	9.5
16	27	18	18	42187	35156	33302	31644	5.0	9.9
16	28	18	18	40680	33900	32112	30513	5.1	10.3



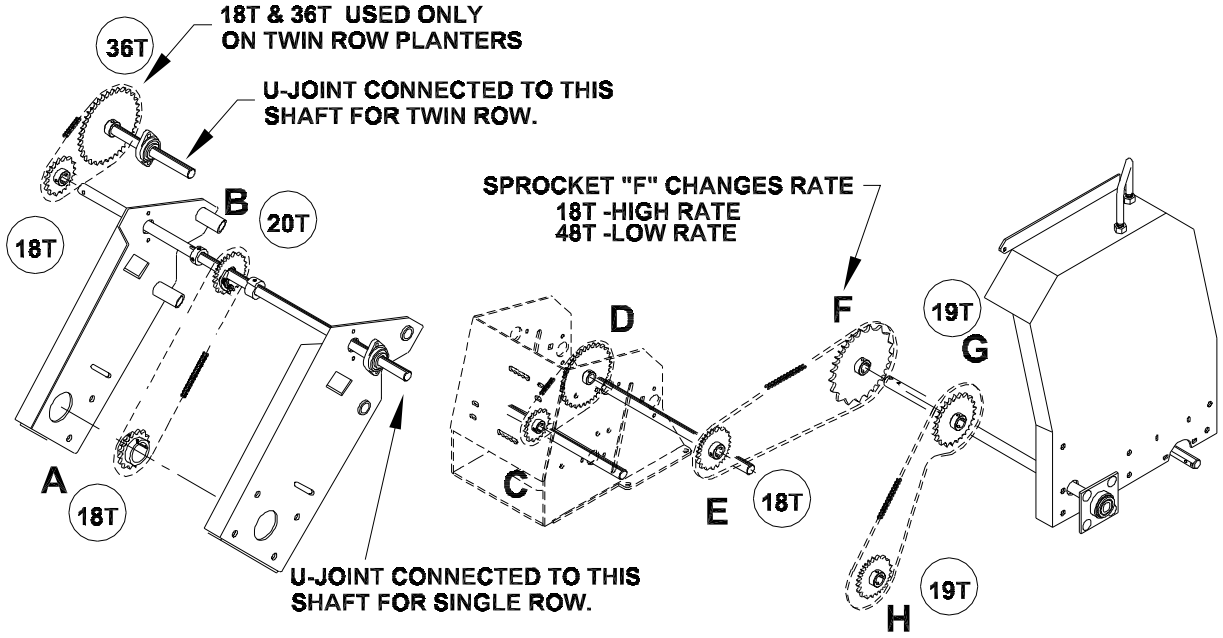
Planter Populations - 36 Cell Plate
Low Rate

				TWIN ROW and SINGLE ROW				SINGLE ROW SEED SPACING IN EACH ROW	TWIN ROW SEED SPACING IN EACH ROW
C	D	E	F	30"ROW POP.	36"ROW POP.	38"ROW POP.	40"ROW POP.		
35	24	18	48	38932	32444	30733	29202	5.4	10.7
35	25	18	48	37375	31146	29503	28034	5.6	11.2
35	26	18	48	35937	29948	28369	26956	5.8	11.6
35	27	18	48	34606	28839	27318	25958	6.0	12.1
35	28	18	48	33370	27809	26342	25031	6.3	12.5
29	24	18	48	32258	26882	25464	24196	6.5	13.0
29	25	18	48	30968	25807	24446	23228	6.8	13.5
29	26	18	48	29777	24814	23505	22335	7.0	14.0
29	27	18	48	28674	23895	22635	21508	7.3	14.6
29	28	18	48	27650	23042	21826	20740	7.6	15.1
24	24	18	48	26696	22247	21074	20024	7.8	15.7
24	25	18	48	25629	21357	20231	19223	8.2	16.3
24	26	18	48	24643	20536	19453	18484	8.5	17.0
24	27	18	48	23730	19775	18732	17799	8.8	17.6
24	28	18	48	22883	19069	18063	17164	9.1	18.3
20	24	18	48	22247	18539	17561	16687	9.4	18.8
20	25	18	48	21357	17798	16859	16020	9.8	19.6
20	26	18	48	20536	17113	16211	15403	10.2	20.4
20	27	18	48	19775	16479	15610	14833	10.6	21.1
20	28	18	48	19069	15891	15053	14303	11.0	21.9
16	24	18	48	17798	14831	14049	13350	11.7	23.5
16	25	18	48	17086	14238	13487	12816	12.2	24.5
16	26	18	48	16429	13690	12968	12323	12.7	25.5
16	27	18	48	15820	13183	12488	11866	13.2	26.4
16	28	18	48	15255	12713	12042	11443	13.7	27.4



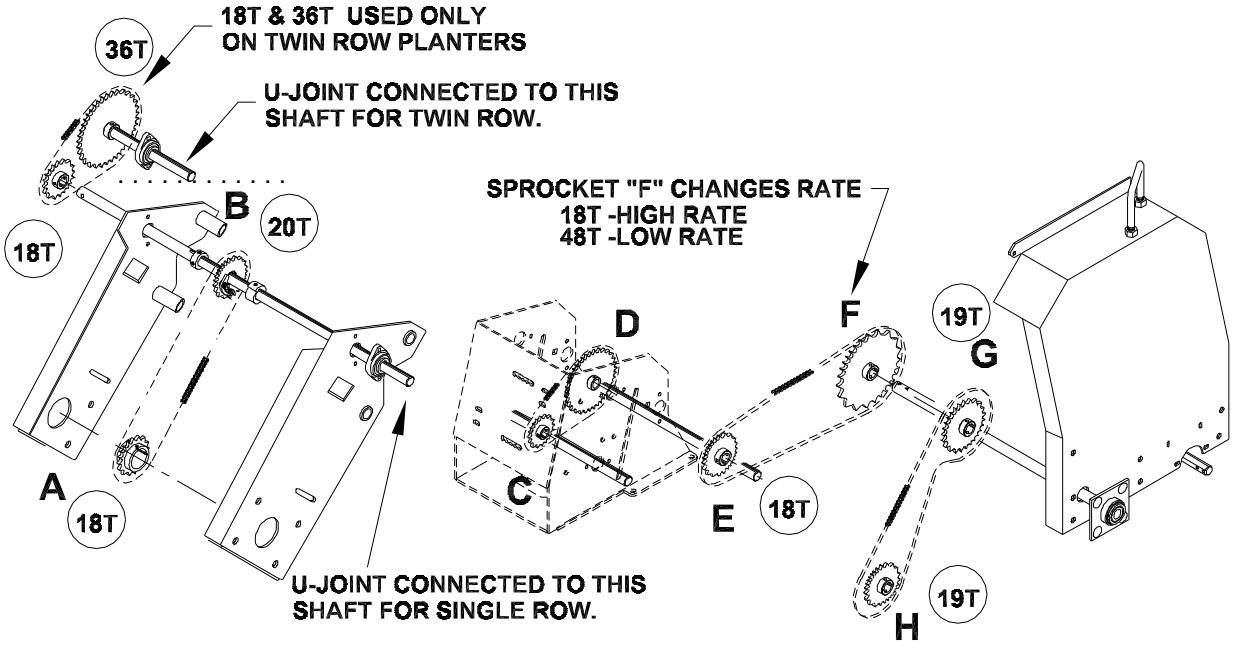
Planter Populations - 40 Cell Plate
High Rate

C	D	E	F	TWIN ROW and SINGLE ROW 30"ROW POP.	36"ROW POP.	38"ROW POP.	40"ROW POP.	SINGLE ROW SEED SPACING IN EACH ROW	TWIN ROW SEED SPACING IN EACH ROW
35	24	18	18	115355	96129	91060	86525	1.8	3.6
35	25	18	18	110741	92284	87417	83064	1.9	3.8
35	26	18	18	106481	88735	84055	79869	2.0	3.9
35	27	18	18	102538	85448	80942	76911	2.0	4.1
35	28	18	18	98876	82397	78051	74165	2.1	4.2
29	24	18	18	95580	79650	75449	71692	2.2	4.4
29	25	18	18	91756	76464	72431	68825	2.3	4.6
29	26	18	18	88227	73523	69646	66178	2.4	4.7
29	27	18	18	84960	70800	67066	63727	2.5	4.9
29	28	18	18	81925	68271	64671	61451	2.6	5.1
24	24	18	18	79100	65917	62441	59332	2.6	5.3
24	25	18	18	75936	63281	59943	56958	2.8	5.5
24	26	18	18	73016	60847	57638	54768	2.9	5.7
24	27	18	18	70311	58593	55503	52739	3.0	5.9
24	28	18	18	67800	56500	53521	50856	3.1	6.2
20	24	18	18	65917	54931	52034	49443	3.2	6.3
20	25	18	18	63280	52734	49953	47465	3.3	6.6
20	26	18	18	60846	50706	48031	45640	3.4	6.9
20	27	18	18	58593	48828	46252	43949	3.6	7.1
20	28	18	18	56500	47084	44601	42380	3.7	7.4
16	24	18	18	52734	43945	41627	39554	4.0	7.9
16	25	18	18	50624	42187	39962	37972	4.1	8.3
16	26	18	18	48677	40564	38425	36512	4.3	8.6
16	27	18	18	46874	39062	37002	35159	4.5	8.9
16	28	18	18	45200	37667	35680	33904	4.6	9.3



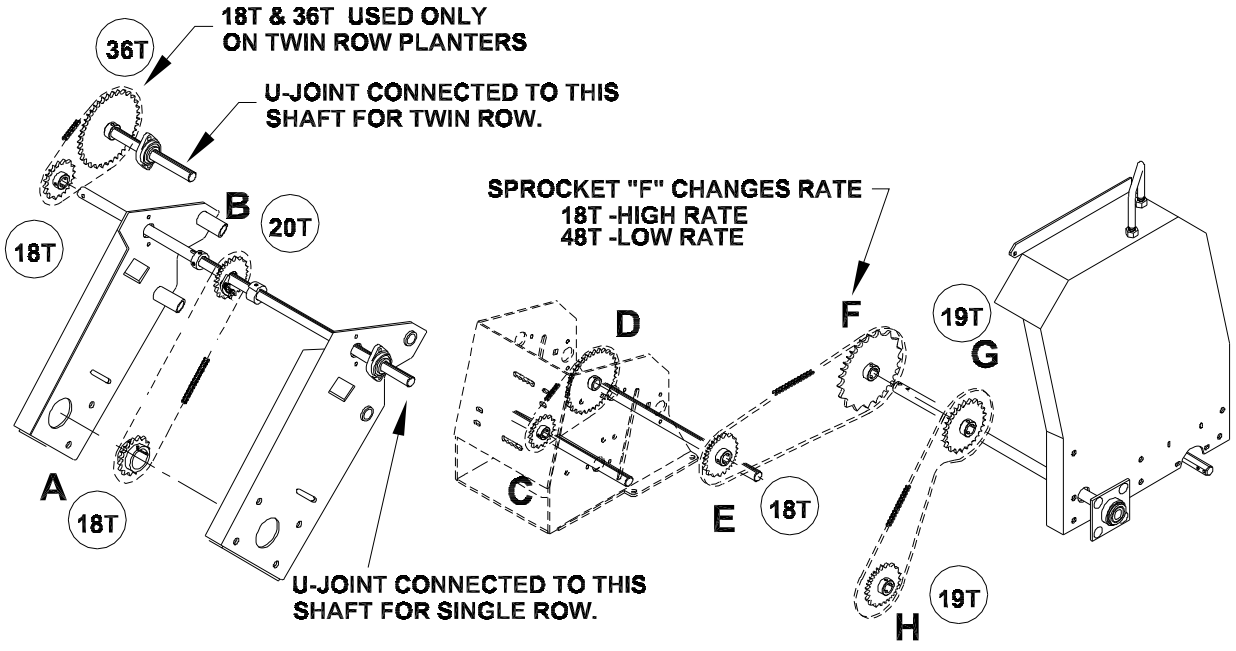
Planter Populations - 40 Cell Plate
Low Rate

				TWIN ROW and SINGLE ROW				SINGLE ROW SEED SPACING IN EACH ROW	TWIN ROW SEED SPACING IN EACH ROW
C	D	E	F	30"ROW POP.	36"ROW POP.	38"ROW POP.	40"ROW POP.		
35	24	18	48	43258	36048	34147	32447	4.8	9.7
35	25	18	48	41528	34607	32781	31149	5.0	10.1
35	26	18	48	39930	33276	31521	29951	5.2	10.5
35	27	18	48	38452	32043	30353	28842	5.4	10.9
35	28	18	48	37078	30899	29269	27812	5.6	11.3
29	24	18	48	35842	29869	28293	26885	5.8	11.7
29	25	18	48	34409	28674	27162	25809	6.1	12.2
29	26	18	48	33085	27571	26117	24817	6.3	12.6
29	27	18	48	31860	26550	25150	23897	6.6	13.1
29	28	18	48	30722	25602	24252	23044	6.8	13.6
24	24	18	48	29663	24719	23415	22249	7.0	14.1
24	25	18	48	28476	23730	22479	21359	7.3	14.7
24	26	18	48	27381	22817	21614	20538	7.6	15.3
24	27	18	48	26367	21972	20814	19777	7.9	15.9
24	28	18	48	25425	21188	20070	19071	8.2	16.4
20	24	18	48	24719	20599	19513	18541	8.5	16.9
20	25	18	48	23730	19775	18732	17799	8.8	17.6
20	26	18	48	22817	19015	18012	17115	9.2	18.3
20	27	18	48	21972	18310	17345	16481	9.5	19.0
20	28	18	48	21188	17656	16725	15892	9.9	19.7
16	24	18	48	19775	16479	15610	14833	10.6	21.1
16	25	18	48	18984	15820	14986	14240	11.0	22.0
16	26	18	48	18254	15212	14409	13692	11.5	22.9
16	27	18	48	17578	14648	13876	13185	11.9	23.8
16	28	18	48	16950	14125	13380	12714	12.3	24.7



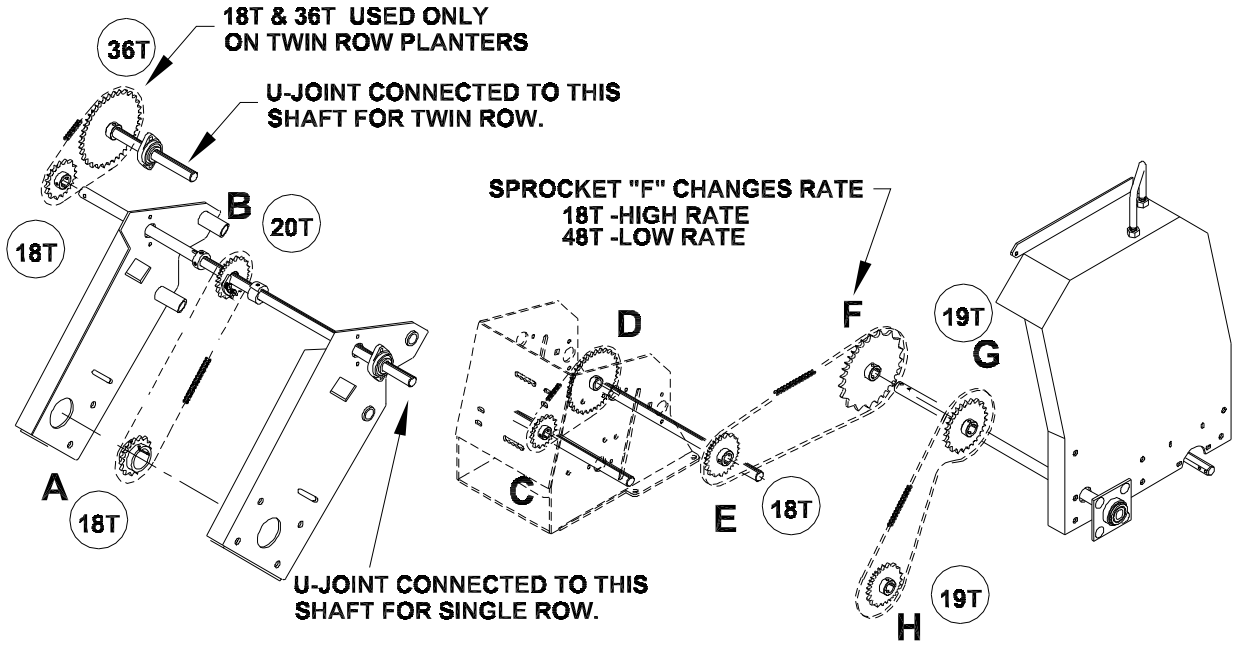
Planter Populations - 45 Cell Plate
High Rate

C	D	E	F	SINGLE ROW 30"ROW POP.	SINGLE ROW 36"ROW POP.	SINGLE ROW 38"ROW POP.	SINGLE ROW 40"ROW POP.	SINGLE ROW SEED SPACING IN EACH ROW	TWIN ROW SEED SPACING IN EACH ROW
35	24	18	18	129774	108145	102442	97341	1.6	3.2
35	25	18	18	124583	103820	98344	93447	1.7	3.4
35	26	18	18	119791	99827	94562	89853	1.7	3.5
35	27	18	18	115355	96129	91060	86525	1.8	3.6
35	28	18	18	111235	92696	87807	83435	1.9	3.8
29	24	18	18	107527	89606	84880	80654	1.9	3.9
29	25	18	18	103226	86022	81485	77428	2.0	4.1
29	26	18	18	99256	82713	78351	74450	2.1	4.2
29	27	18	18	95580	79650	75449	71692	2.2	4.4
29	28	18	18	92166	76805	72755	69132	2.3	4.5
24	24	18	18	88988	74157	70246	66748	2.3	4.7
24	25	18	18	85428	71191	67436	64078	2.4	4.9
24	26	18	18	82143	68452	64842	61614	2.5	5.1
24	27	18	18	79100	65917	62441	59332	2.6	5.3
24	28	18	18	76275	63563	60211	57213	2.7	5.5
20	24	18	18	74157	61797	58538	55623	2.8	5.6
20	25	18	18	71190	59325	56197	53398	2.9	5.9
20	26	18	18	68452	57044	54035	51345	3.1	6.1
20	27	18	18	65917	54931	52034	49443	3.2	6.3
20	28	18	18	63563	52969	50176	47677	3.3	6.6
16	24	18	18	59325	49438	46831	44499	3.5	7.0
16	25	18	18	56952	47460	44957	42719	3.7	7.3
16	26	18	18	54762	45635	43228	41076	3.8	7.6
16	27	18	18	52734	43945	41627	39554	4.0	7.9
16	28	18	18	50850	42375	40141	38142	4.1	8.2



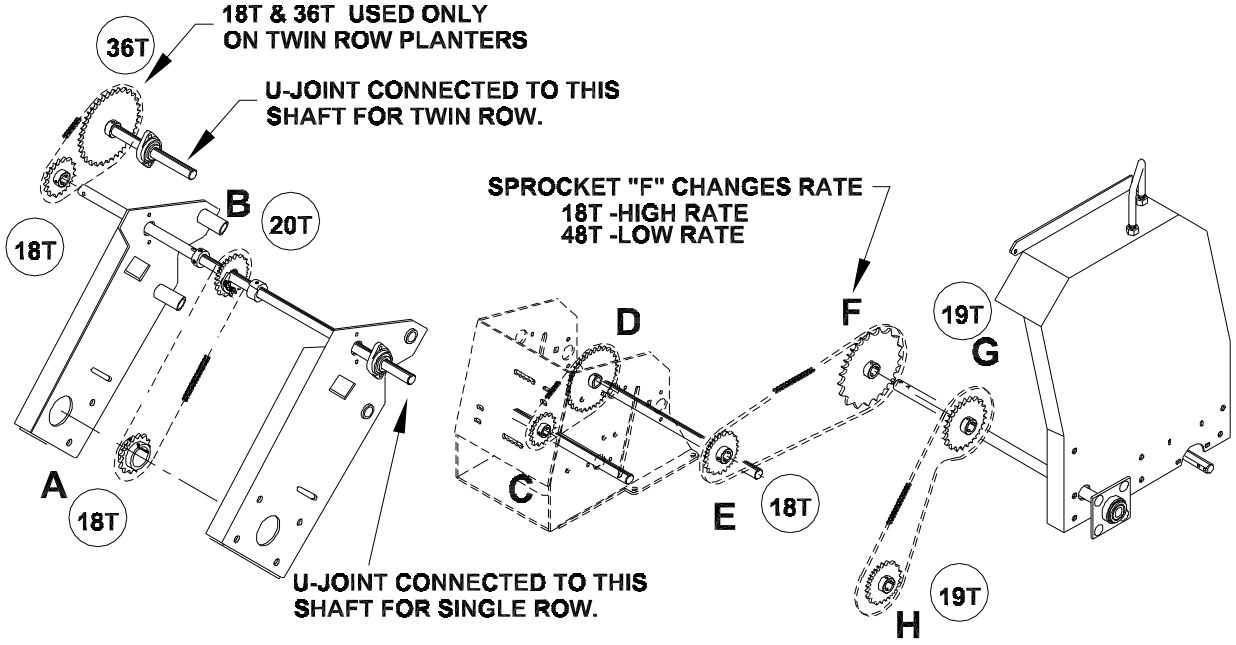
Planter Populations - 45 Cell Plate
Low Rate

C	D	E	F	SINGLE ROW 30"ROW POP.	SINGLE ROW 36"ROW POP.	SINGLE ROW 38"ROW POP.	SINGLE ROW 40"ROW POP.	SINGLE ROW SEED SPACING IN EACH ROW	TWIN ROW SEED SPACING IN EACH ROW
35	24	18	48	48665	40555	38416	36503	4.3	8.6
35	25	18	48	46719	38932	36879	35043	4.5	9.0
35	26	18	48	44922	37435	35461	33695	4.7	9.3
35	27	18	48	43258	36048	34147	32447	4.8	9.7
35	28	18	48	41713	34761	32928	31288	5.0	10.0
29	24	18	48	40323	33602	31830	30245	5.2	10.4
29	25	18	48	38710	32258	30557	29035	5.4	10.8
29	26	18	48	37221	31018	29382	27919	5.6	11.2
29	27	18	48	35842	29869	28293	26885	5.8	11.7
29	28	18	48	34562	28802	27283	25924	6.0	12.1
24	24	18	48	33370	27809	26342	25031	6.3	12.5
24	25	18	48	32036	26696	25289	24029	6.5	13.1
24	26	18	48	30804	25670	24316	23105	6.8	13.6
24	27	18	48	29663	24719	23415	22249	7.0	14.1
24	28	18	48	28603	23836	22579	21455	7.3	14.6
20	24	18	48	27809	23174	21952	20859	7.5	15.0
20	25	18	48	26696	22247	21074	20024	7.8	15.7
20	26	18	48	25670	21391	20263	19254	8.1	16.3
20	27	18	48	24719	20599	19513	18541	8.5	16.9
20	28	18	48	23836	19863	18816	17879	8.8	17.5
16	24	18	48	22247	18539	17561	16687	9.4	18.8
16	25	18	48	21357	17798	16859	16020	9.8	19.6
16	26	18	48	20536	17113	16211	15403	10.2	20.4
16	27	18	48	19775	16479	15610	14833	10.6	21.1
16	28	18	48	19069	15891	15053	14303	11.0	21.9



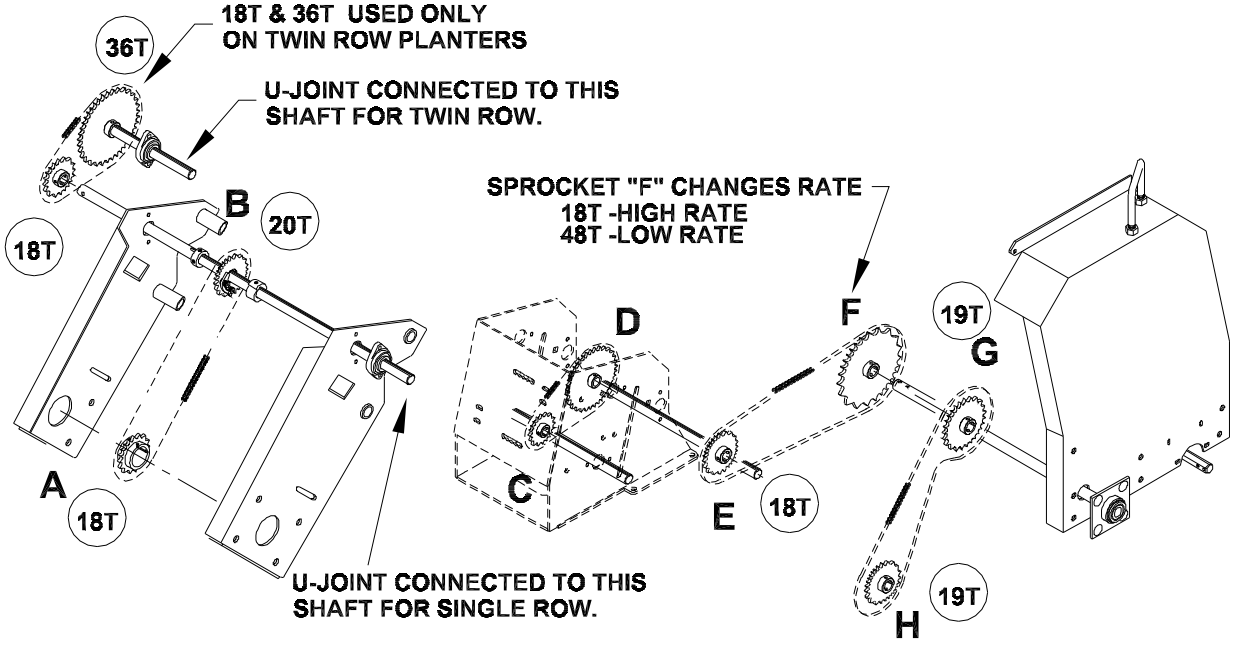
Planter Populations - 46 Cell Plate
High Rate

C	D	E	F	TWIN ROW and SINGLE ROW 30"ROW POP.	36"ROW POP.	38"ROW POP.	40"ROW POP.	SINGLE ROW SEED SPACING IN EACH ROW	TWIN ROW SEED SPACING IN EACH ROW
35	24	18	18	132658	110549	104718	99504	1.6	3.2
35	25	18	18	127352	106127	100530	95524	1.6	3.3
35	26	18	18	122454	102045	96663	91850	1.7	3.4
35	27	18	18	117918	98265	93083	88448	1.8	3.5
35	28	18	18	113707	94756	89759	85289	1.8	3.7
29	24	18	18	109917	91597	86767	82446	1.9	3.8
29	25	18	18	105520	87934	83296	79148	2.0	4.0
29	26	18	18	101461	84551	80092	76104	2.1	4.1
29	27	18	18	97704	81420	77126	73286	2.1	4.3
29	28	18	18	94214	78512	74371	70668	2.2	4.4
24	24	18	18	90965	75805	71807	68231	2.3	4.6
24	25	18	18	87327	72773	68935	65502	2.4	4.8
24	26	18	18	83968	69974	66283	62983	2.5	5.0
24	27	18	18	80858	67382	63828	60650	2.6	5.2
24	28	18	18	77970	64976	61549	58484	2.7	5.4
20	24	18	18	75805	63171	59839	56859	2.8	5.5
20	25	18	18	72772	60644	57446	54585	2.9	5.7
20	26	18	18	69973	58311	55236	52486	3.0	6.0
20	27	18	18	67382	56152	53190	50542	3.1	6.2
20	28	18	18	64975	54146	51291	48737	3.2	6.4
16	24	18	18	60644	50537	47871	45488	3.4	6.9
16	25	18	18	58218	48515	45956	43668	3.6	7.2
16	26	18	18	55979	46649	44189	41989	3.7	7.5
16	27	18	18	53905	44921	42552	40433	3.9	7.8
16	28	18	18	51980	43317	41033	38989	4.0	8.0



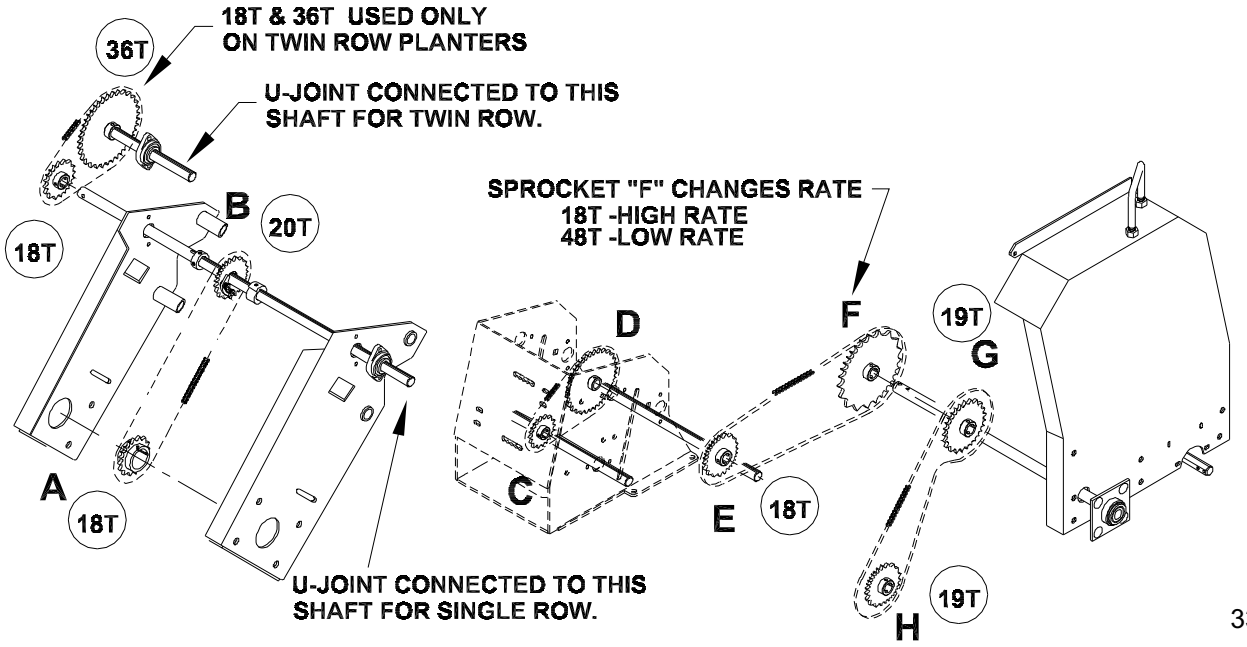
Planter Populations - 46 Cell Plate
Low Rate

				TWIN ROW and SINGLE ROW				SINGLE ROW SEED SPACING IN EACH ROW	TWIN ROW SEED SPACING IN EACH ROW
C	D	E	F	30"ROW POP.	36"ROW POP.	38"ROW POP.	40"ROW POP.		
35	24	18	48	49747	41456	39269	37314	4.2	8.4
35	25	18	48	47757	39798	37699	35821	4.4	8.8
35	26	18	48	45920	38267	36249	34444	4.6	9.1
35	27	18	48	44219	36850	34906	33168	4.7	9.5
35	28	18	48	42640	35533	33659	31983	4.9	9.8
29	24	18	48	41219	34349	32538	30917	5.1	10.1
29	25	18	48	39570	32975	31236	29681	5.3	10.6
29	26	18	48	38048	31707	30035	28539	5.5	11.0
29	27	18	48	36639	30532	28922	27482	5.7	11.4
29	28	18	48	35330	29442	27889	26501	5.9	11.8
24	24	18	48	34112	28427	26928	25587	6.1	12.3
24	25	18	48	32748	27290	25850	24563	6.4	12.8
24	26	18	48	31488	26240	24856	23619	6.6	13.3
24	27	18	48	30322	25268	23936	22744	6.9	13.8
24	28	18	48	29239	24366	23081	21932	7.2	14.3
20	24	18	48	28427	23689	22440	21322	7.4	14.7
20	25	18	48	27290	22741	21542	20469	7.7	15.3
20	26	18	48	26240	21867	20714	19682	8.0	15.9
20	27	18	48	25268	21057	19946	18953	8.3	16.5
20	28	18	48	24366	20305	19234	18276	8.6	17.2
16	24	18	48	22741	18951	17952	17058	9.2	18.4
16	25	18	48	21832	18193	17234	16376	9.6	19.2
16	26	18	48	20992	17493	16571	15746	10.0	19.9
16	27	18	48	20215	16846	15957	15163	10.3	20.7
16	28	18	48	19493	16244	15387	14621	10.7	21.5



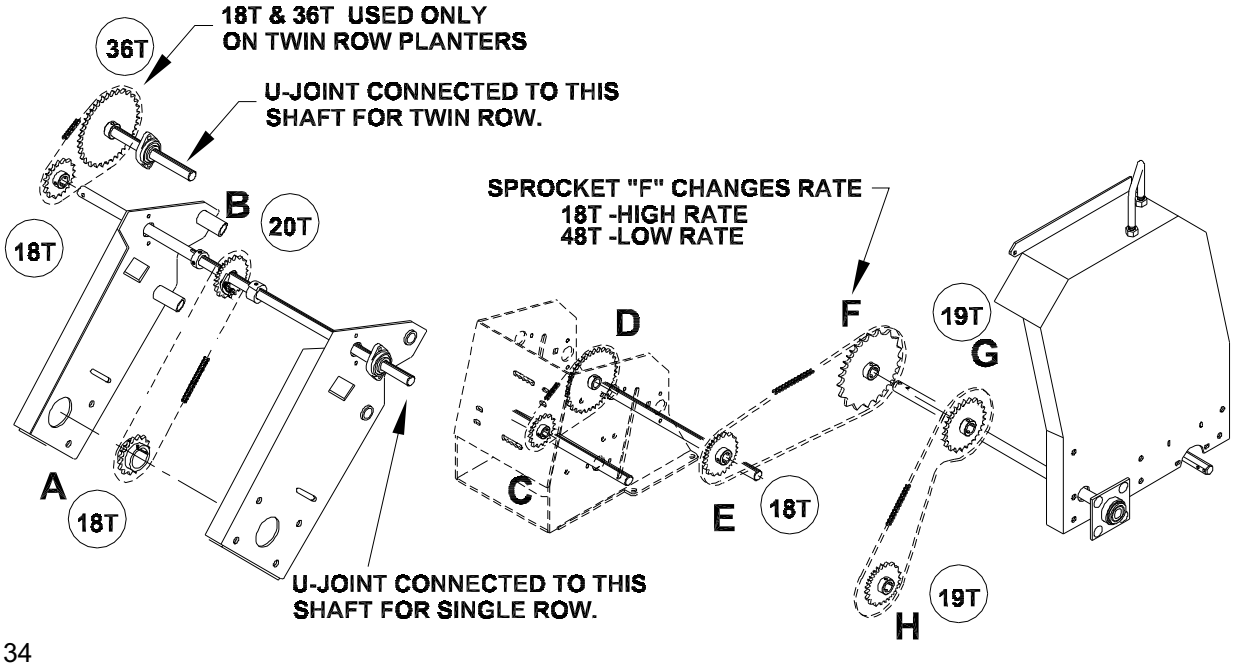
Planter Populations - 50 Cell Plate
High Rate

C	D	E	F	TWIN ROW and SINGLE ROW 30"ROW POP.	36"ROW POP.	38"ROW POP.	40"ROW POP.	SINGLE ROW SEED SPACING IN EACH ROW	TWIN ROW SEED SPACING IN EACH ROW
35	24	18	18	144193	120162	113824	108157	1.5	2.9
35	25	18	18	138426	115355	109271	103830	1.5	3.0
35	26	18	18	133102	110918	105069	99837	1.6	3.1
35	27	18	18	128172	106810	101177	96139	1.6	3.3
35	28	18	18	123594	102996	97564	92706	1.7	3.4
29	24	18	18	119475	99562	94312	89615	1.8	3.5
29	25	18	18	114696	95580	90539	86031	1.8	3.6
29	26	18	18	110284	91904	87057	82722	1.9	3.8
29	27	18	18	106200	88500	83833	79658	2.0	3.9
29	28	18	18	102407	85339	80839	76813	2.0	4.1
24	24	18	18	98876	82396	78051	74165	2.1	4.2
24	25	18	18	94920	79101	74929	71198	2.2	4.4
24	26	18	18	91270	76058	72047	68460	2.3	4.6
24	27	18	18	87889	73241	69379	65924	2.4	4.8
24	28	18	18	84750	70626	66901	63570	2.5	4.9
20	24	18	18	82396	68664	65043	61804	2.5	5.1
20	25	18	18	79100	65917	62441	59332	2.6	5.3
20	26	18	18	76058	63382	60039	57050	2.7	5.5
20	27	18	18	73241	61034	57816	54937	2.9	5.7
20	28	18	18	70625	58855	55751	52975	3.0	5.9
16	24	18	18	65917	54931	52034	49443	3.2	6.3
16	25	18	18	63280	52734	49953	47465	3.3	6.6
16	26	18	18	60846	50706	48031	45640	3.4	6.9
16	27	18	18	58593	48828	46252	43949	3.6	7.1
16	28	18	18	56500	47084	44601	42380	3.7	7.4



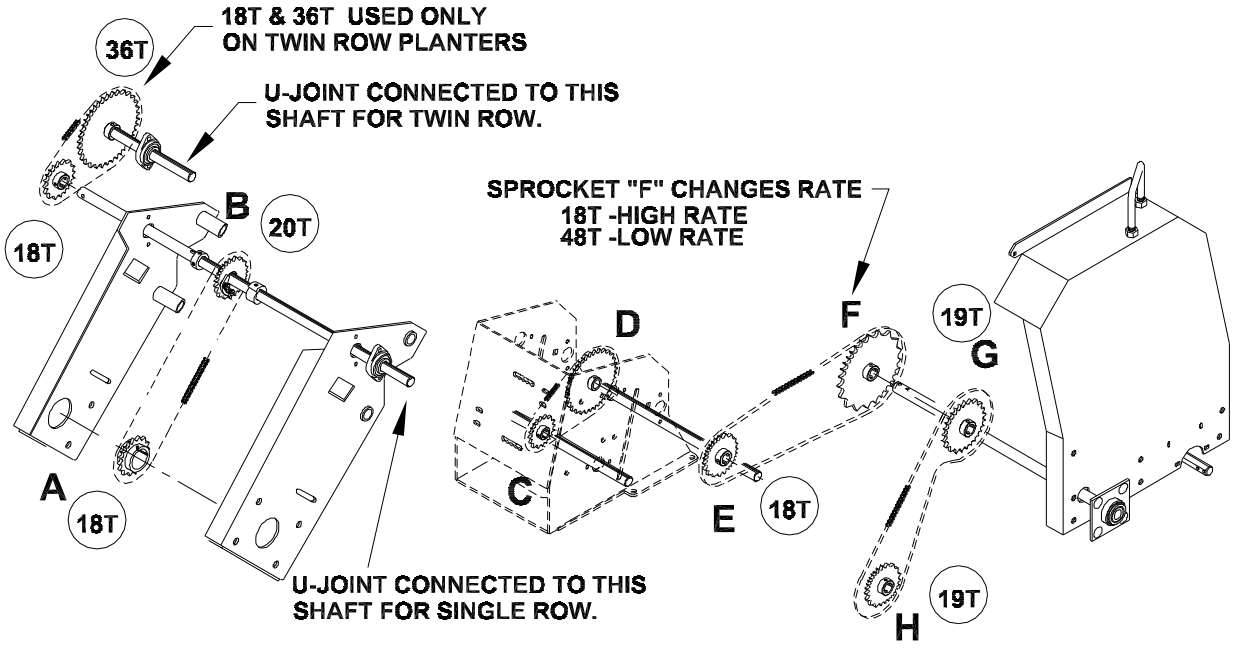
Planter Population - 50 Cell
Low Rate

C	D	E	F	SINGLE ROW 30"ROW POP.	SINGLE ROW 36"ROW POP.	SINGLE ROW 38"ROW POP.	SINGLE ROW 40"ROW POP.	SINGLE ROW SEED SPACING IN EACH ROW	TWIN ROW SEED SPACING IN EACH ROW
35	24	18	48	54073	45061	42684	40559	3.9	7.7
35	25	18	48	51910	43258	40977	38936	4.0	8.1
35	26	18	48	49913	41594	39401	37439	4.2	8.4
35	27	18	48	48064	40054	37941	36052	4.4	8.7
35	28	18	48	46348	38623	36586	34765	4.5	9.0
29	24	18	48	44803	37336	35367	33606	4.7	9.3
29	25	18	48	43011	35842	33952	32262	4.9	9.7
29	26	18	48	41357	34464	32646	31021	5.1	10.1
29	27	18	48	39825	33187	31437	29872	5.3	10.5
29	28	18	48	38403	32002	30314	28805	5.4	10.9
24	24	18	48	37078	30899	29269	27812	5.6	11.3
24	25	18	48	35595	29663	28098	26699	5.9	11.7
24	26	18	48	34226	28522	27018	25672	6.1	12.2
24	27	18	48	32958	27466	26017	24722	6.3	12.7
24	28	18	48	31781	26485	25088	23839	6.6	13.2
20	24	18	48	30899	25749	24391	23176	6.8	13.5
20	25	18	48	29663	24719	23415	22249	7.0	14.1
20	26	18	48	28522	23768	22515	21394	7.3	14.7
20	27	18	48	27465	22888	21681	20601	7.6	15.2
20	28	18	48	26485	22070	20907	19865	7.9	15.8
16	24	18	48	24719	20599	19513	18541	8.5	16.9
16	25	18	48	23730	19775	18732	17799	8.8	17.6
16	26	18	48	22817	19015	18012	17115	9.2	18.3
16	27	18	48	21972	18310	17345	16481	9.5	19.0
16	28	18	48	21188	17656	16725	15892	9.9	19.7



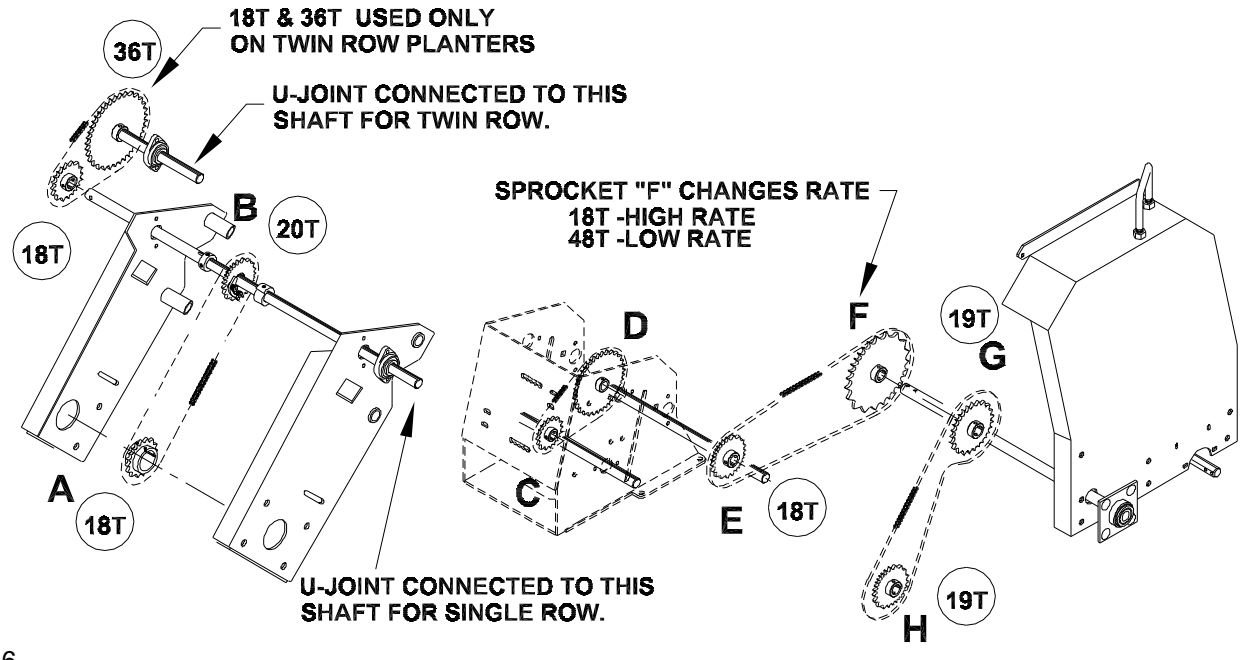
Planter Populations - 56 Cell Plate
High Rate

				SINGLE ROW				SINGLE ROW	TWIN ROW
				30"ROW	36"ROW	38"ROW	40"ROW	SEED SPACING	SEED SPACING
C	D	E	F	POP.	POP.	POP.	POP.	IN EACH ROW	IN EACH ROW
35	24	18	18	161497	134581	127483	121135	1.3	2.6
35	25	18	18	155037	129198	122384	116290	1.3	2.7
35	26	18	18	149074	124229	117677	111817	1.4	2.8
35	27	18	18	143553	119628	113318	107676	1.5	2.9
35	28	18	18	138426	115355	109271	103830	1.5	3.0
29	24	18	18	133812	111510	105629	100369	1.6	3.1
29	25	18	18	128459	107050	101404	96355	1.6	3.3
29	26	18	18	123518	102932	97504	92649	1.7	3.4
29	27	18	18	118944	99120	93892	89217	1.8	3.5
29	28	18	18	114696	95580	90539	86031	1.8	3.6
24	24	18	18	110741	92284	87417	83064	1.9	3.8
24	25	18	18	106311	88593	83920	79742	2.0	3.9
24	26	18	18	102222	85185	80693	76675	2.0	4.1
24	27	18	18	98436	82030	77704	73835	2.1	4.2
24	28	18	18	94920	79101	74929	71198	2.2	4.4
20	24	18	18	92284	76903	72848	69220	2.3	4.5
20	25	18	18	88592	73827	69934	66451	2.4	4.7
20	26	18	18	85185	70988	67244	63896	2.5	4.9
20	27	18	18	82030	68359	64753	61529	2.5	5.1
20	28	18	18	79100	65917	62441	59332	2.6	5.3
16	24	18	18	73827	61523	58278	55376	2.8	5.7
16	25	18	18	70874	59062	55947	53161	3.0	5.9
16	26	18	18	68148	56790	53795	51116	3.1	6.1
16	27	18	18	65624	54687	51803	49223	3.2	6.4
16	28	18	18	63280	52734	49953	47465	3.3	6.6



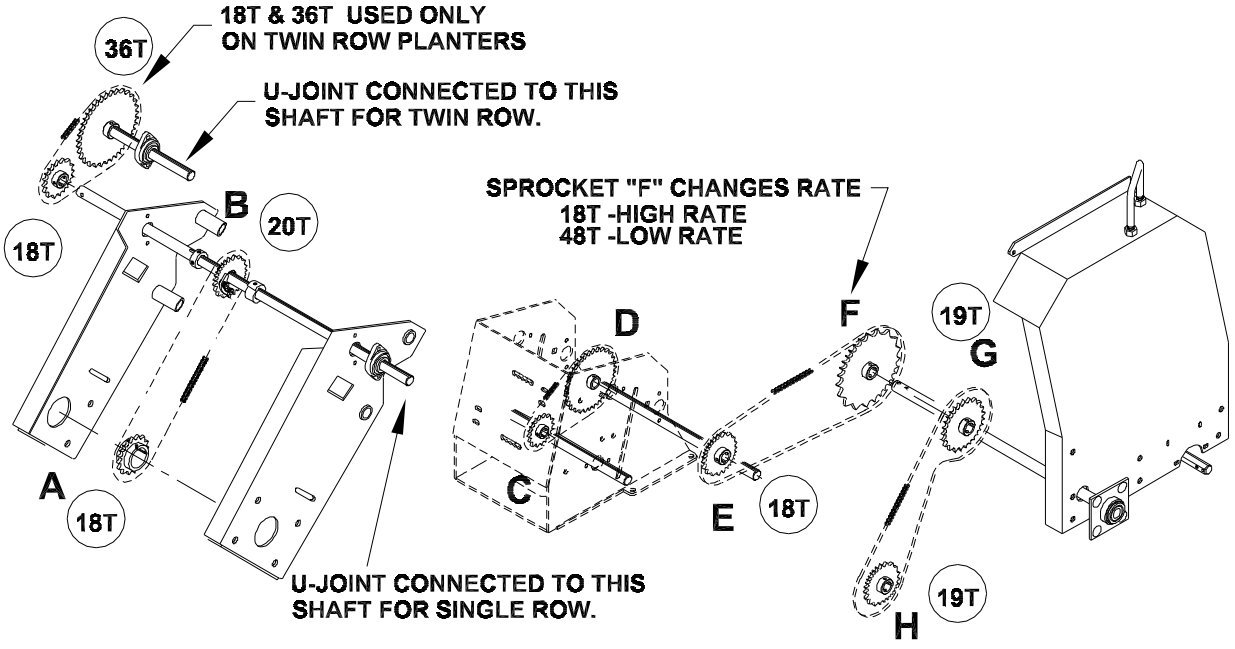
Planter Populations - 56 Cell
Low Rate

C	D	E	F	TWIN ROW and SINGLE ROW 30"ROW POP.	36"ROW POP.	38"ROW POP.	40"ROW POP.	SINGLE ROW SEED SPACING IN EACH ROW	TWIN ROW SEED SPACING IN EACH ROW
35	24	18	48	60561	50468	47806	45426	3.5	6.9
35	25	18	48	58139	48449	45894	43609	3.6	7.2
35	26	18	48	55903	46586	44129	41931	3.7	7.5
35	27	18	48	53832	44860	42494	40378	3.9	7.8
35	28	18	48	51910	43258	40977	38936	4.0	8.1
29	24	18	48	50179	41816	39611	37638	4.2	8.3
29	25	18	48	48172	40144	38026	36133	4.3	8.7
29	26	18	48	46319	38600	36564	34743	4.5	9.0
29	27	18	48	44604	37170	35210	33456	4.7	9.4
29	28	18	48	43011	35842	33952	32262	4.9	9.7
24	24	18	48	41528	34607	32781	31149	5.0	10.1
24	25	18	48	39867	33222	31470	29903	5.2	10.5
24	26	18	48	38333	31944	30260	28753	5.5	10.9
24	27	18	48	36914	30761	29139	27688	5.7	11.3
24	28	18	48	35595	29663	28098	26699	5.9	11.7
20	24	18	48	34606	28839	27318	25958	6.0	12.1
20	25	18	48	33222	27685	26225	24919	6.3	12.6
20	26	18	48	31944	26620	25216	23961	6.5	13.1
20	27	18	48	30761	25634	24283	23073	6.8	13.6
20	28	18	48	29663	24719	23415	22249	7.0	14.1
16	24	18	48	27685	23071	21854	20766	7.6	15.1
16	25	18	48	26578	22148	20980	19935	7.9	15.7
16	26	18	48	25556	21296	20173	19169	8.2	16.4
16	27	18	48	24609	20508	19426	18459	8.5	17.0
16	28	18	48	23730	19775	18732	17799	8.8	17.6



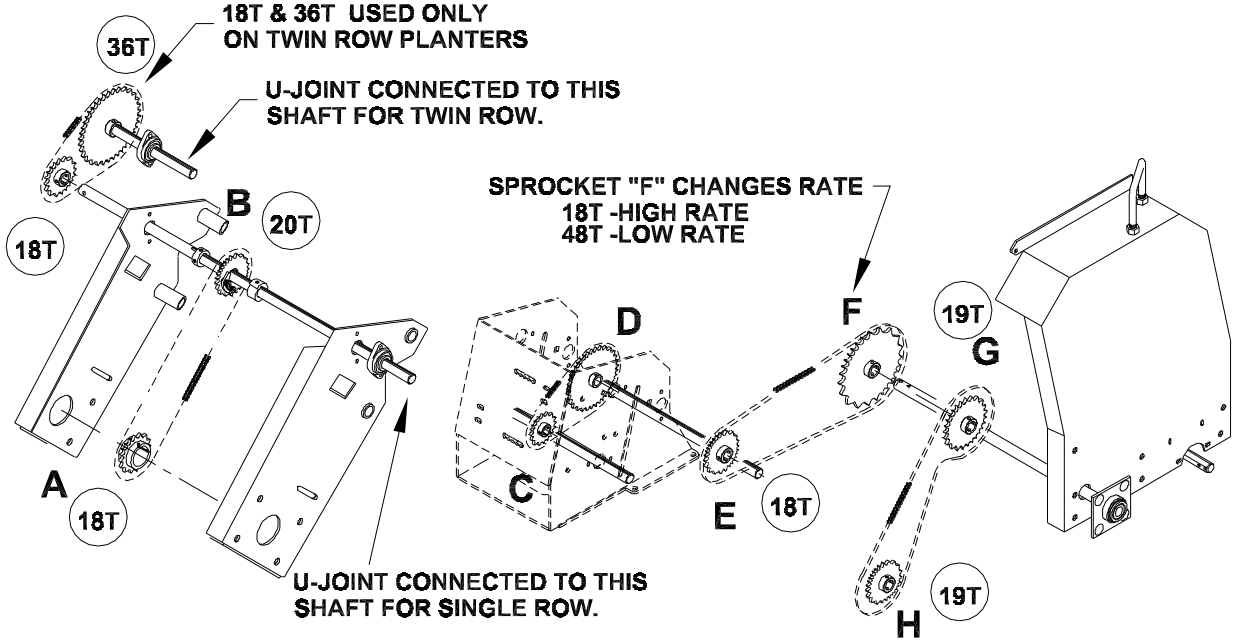
Planter Populations - 60 Cell Plate
High Rate

				TWIN ROW and SINGLE ROW				SINGLE ROW SEED SPACING IN EACH ROW	TWIN ROW SEED SPACING IN EACH ROW
C	D	E	F	30"ROW POP.	36"ROW POP.	38"ROW POP.	40"ROW POP.		
35	24	18	18	173032	144194	136589	129788	1.2	2.4
35	25	18	18	166111	138426	131126	124596	1.3	2.5
35	26	18	18	159722	133102	126082	119804	1.3	2.6
35	27	18	18	153806	128172	121413	115367	1.4	2.7
35	28	18	18	148313	123595	117077	111247	1.4	2.8
29	24	18	18	143369	119475	113174	107539	1.5	2.9
29	25	18	18	137635	114696	108647	103237	1.5	3.0
29	26	18	18	132341	110285	104468	99266	1.6	3.2
29	27	18	18	127440	106200	100599	95590	1.6	3.3
29	28	18	18	122888	102407	97006	92176	1.7	3.4
24	24	18	18	118651	98876	93661	88997	1.8	3.5
24	25	18	18	113905	94921	89915	85438	1.8	3.7
24	26	18	18	109524	91270	86456	82151	1.9	3.8
24	27	18	18	105467	87890	83254	79109	2.0	4.0
24	28	18	18	101701	84751	80281	76283	2.1	4.1
20	24	18	18	98876	82397	78051	74165	2.1	4.2
20	25	18	18	94920	79101	74929	71198	2.2	4.4
20	26	18	18	91270	76058	72047	68460	2.3	4.6
20	27	18	18	87889	73241	69379	65924	2.4	4.8
20	28	18	18	84750	70626	66901	63570	2.5	4.9
16	24	18	18	79100	65917	62441	59332	2.6	5.3
16	25	18	18	75936	63281	59943	56958	2.8	5.5
16	26	18	18	73016	60847	57638	54768	2.9	5.7
16	27	18	18	70311	58593	55503	52739	3.0	5.9
16	28	18	18	67800	56500	53521	50856	3.1	6.2



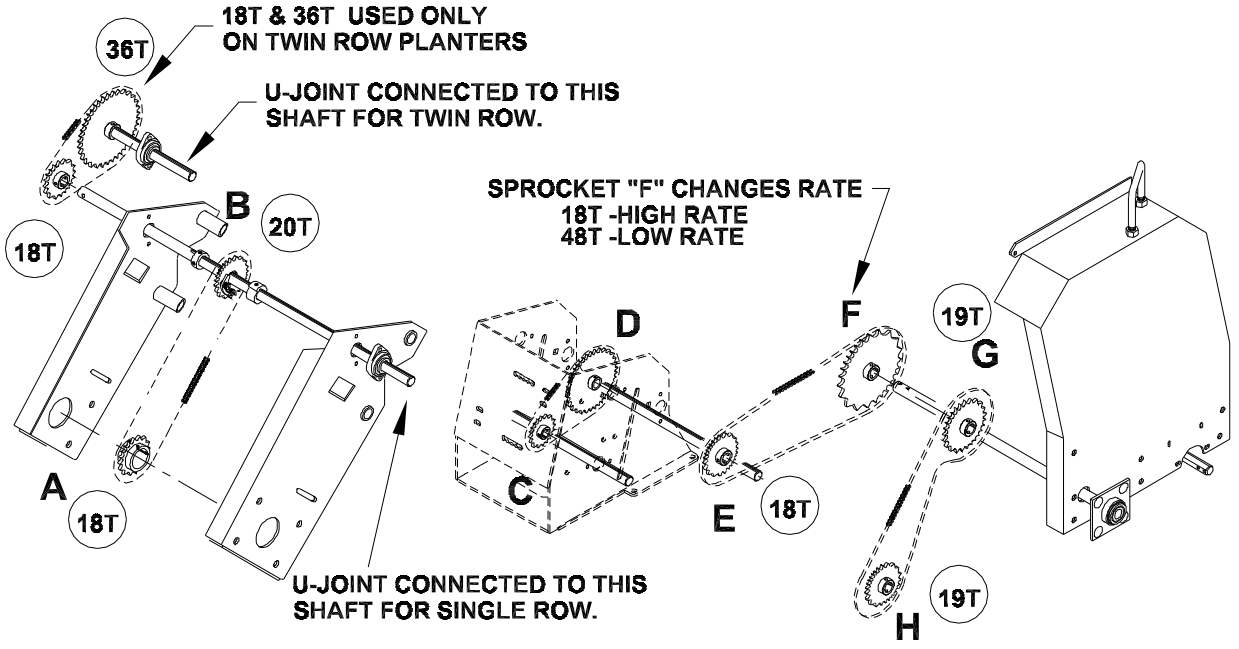
Planter Populations - 60 Cell Plate
Low Rate

				TWIN ROW and SINGLE ROW				SINGLE ROW	TWIN ROW
				30"ROW	36"ROW	38"ROW	40"ROW	SEED SPACING	SEED SPACING
C	D	E	F	POP.	POP.	POP.	POP.	IN EACH ROW	IN EACH ROW
35	24	18	48	64887	54073	51221	48670	3.2	6.4
35	25	18	48	62292	51910	49172	46724	3.4	6.7
35	26	18	48	59896	49913	47281	44927	3.5	7.0
35	27	18	48	57677	48065	45530	43263	3.6	7.2
35	28	18	48	55617	46348	43904	41718	3.8	7.5
29	24	18	48	53764	44803	42440	40327	3.9	7.8
29	25	18	48	51613	43011	40743	38714	4.1	8.1
29	26	18	48	49628	41357	39176	37225	4.2	8.4
29	27	18	48	47790	39825	37725	35846	4.4	8.7
29	28	18	48	46083	38403	36377	34566	4.5	9.1
24	24	18	48	44494	37078	35123	33374	4.7	9.4
24	25	18	48	42714	35595	33718	32039	4.9	9.8
24	26	18	48	41071	34226	32421	30807	5.1	10.2
24	27	18	48	39550	32959	31220	29666	5.3	10.6
24	28	18	48	38138	31782	30105	28606	5.5	11.0
20	24	18	48	37078	30899	29269	27812	5.6	11.3
20	25	18	48	35595	29663	28098	26699	5.9	11.7
20	26	18	48	34226	28522	27018	25672	6.1	12.2
20	27	18	48	32959	27466	26017	24722	6.3	12.7
20	28	18	48	31781	26485	25088	23839	6.6	13.2
16	24	18	48	29663	24719	23415	22249	7.0	14.1
16	25	18	48	28476	23730	22479	21359	7.3	14.7
16	26	18	48	27381	22817	21614	20538	7.6	15.3
16	27	18	48	26367	21972	20814	19777	7.9	15.9
16	28	18	48	25425	21188	20070	19071	8.2	16.4



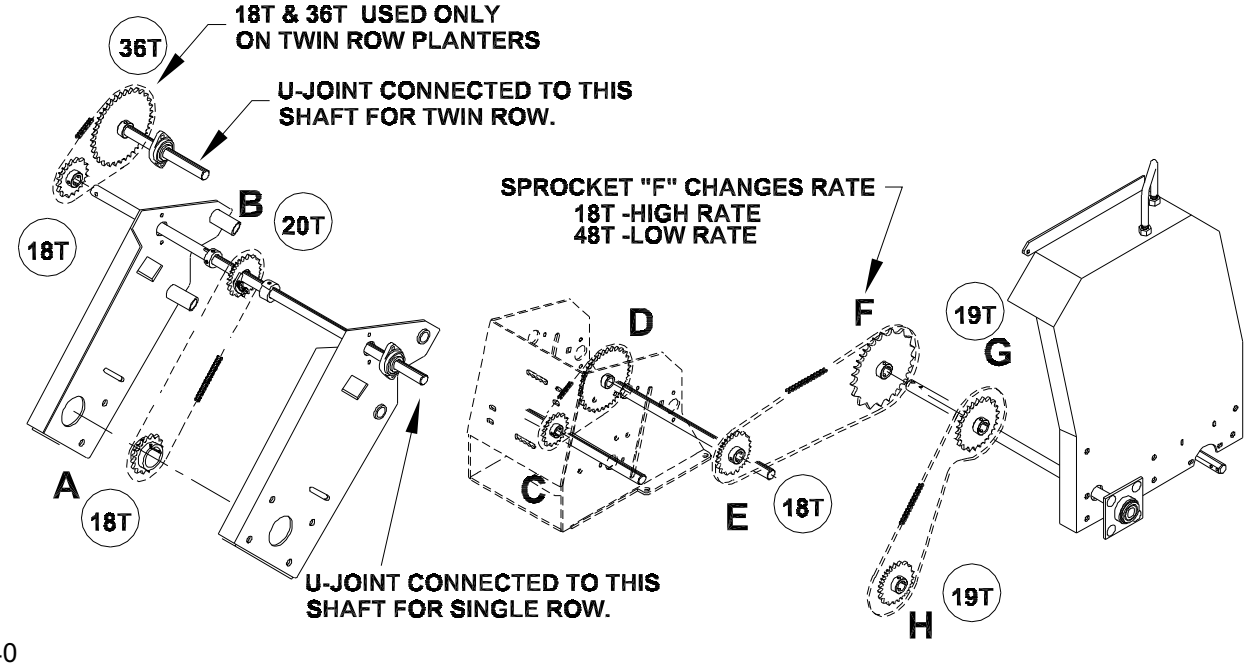
Planter Populations - 64 Cell Plate
High Rate

C	D	E	F	TWIN ROW and SINGLE ROW 30"ROW POP.	36"ROW POP.	38"ROW POP.	40"ROW POP.	SINGLE ROW SEED SPACING IN EACH ROW	TWIN ROW SEED SPACING IN EACH ROW
35	24	18	18	184568	153807	145695	138440	1.1	2.3
35	25	18	18	177185	147655	139867	132903	1.2	2.4
35	26	18	18	170370	141976	134488	127791	1.2	2.5
35	27	18	18	164060	136717	129507	123058	1.3	2.5
35	28	18	18	158201	131834	124882	118663	1.3	2.6
29	24	18	18	152927	127440	120719	114708	1.4	2.7
29	25	18	18	146810	122342	115890	110119	1.4	2.8
29	26	18	18	141164	117637	111433	105884	1.5	3.0
29	27	18	18	135936	113280	107306	101962	1.5	3.1
29	28	18	18	131081	109234	103473	98321	1.6	3.2
24	24	18	18	126561	105468	99905	94931	1.7	3.3
24	25	18	18	121498	101249	95909	91133	1.7	3.4
24	26	18	18	116825	97355	92220	87628	1.8	3.6
24	27	18	18	112498	93749	88805	84383	1.9	3.7
24	28	18	18	108481	90401	85633	81369	1.9	3.9
20	24	18	18	105467	87890	83254	79109	2.0	4.0
20	25	18	18	101249	84374	79924	75944	2.1	4.1
20	26	18	18	97354	81129	76850	73024	2.1	4.3
20	27	18	18	93749	78124	74004	70319	2.2	4.5
20	28	18	18	90400	75334	71361	67808	2.3	4.6
16	24	18	18	84374	70312	66604	63287	2.5	5.0
16	25	18	18	80999	67499	63939	60756	2.6	5.2
16	26	18	18	77883	64903	61480	58419	2.7	5.4
16	27	18	18	74999	62499	59203	56255	2.8	5.6
16	28	18	18	72320	60267	57089	54246	2.9	5.8



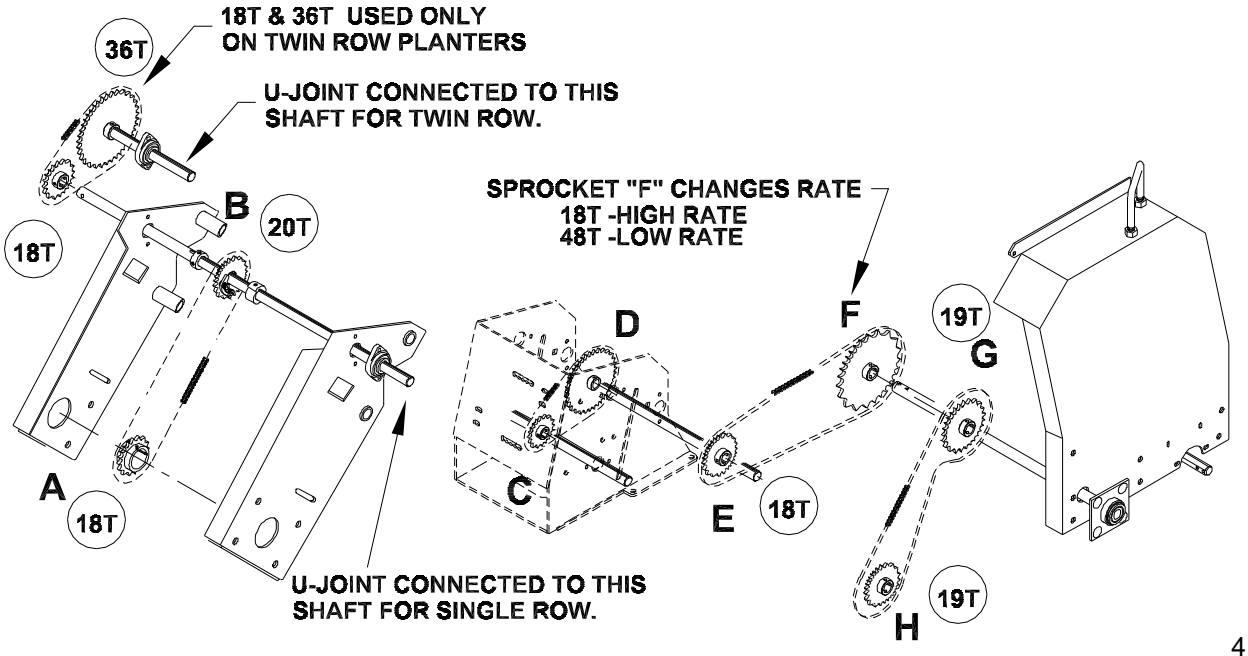
Planter Populations - 64 Cell Plate
Low Rate

C	D	E	F	TWIN ROW and SINGLE ROW 30"ROW POP.	36"ROW POP.	38"ROW POP.	40"ROW POP.	SINGLE ROW SEED SPACING IN EACH ROW	TWIN ROW SEED SPACING IN EACH ROW
35	24	18	48	69213	57678	54636	51915	3.0	6.0
35	25	18	48	66444	55370	52450	49839	3.1	6.3
35	26	18	48	63889	53241	50433	47922	3.3	6.5
35	27	18	48	61523	51269	48565	46147	3.4	6.8
35	28	18	48	59325	49438	46831	44499	3.5	7.0
29	24	18	48	57348	47790	45270	43015	3.6	7.3
29	25	18	48	55054	45878	43459	41295	3.8	7.6
29	26	18	48	52936	44114	41787	39707	3.9	7.9
29	27	18	48	50976	42480	40240	38236	4.1	8.2
29	28	18	48	49155	40963	38802	36870	4.3	8.5
24	24	18	48	47460	39550	37464	35599	4.4	8.8
24	25	18	48	45562	37968	35966	34175	4.6	9.2
24	26	18	48	43809	36508	34583	32861	4.8	9.5
24	27	18	48	42187	35156	33302	31644	5.0	9.9
24	28	18	48	40680	33900	32112	30513	5.1	10.3
20	24	18	48	39550	32959	31220	29666	5.3	10.6
20	25	18	48	37968	31640	29972	28479	5.5	11.0
20	26	18	48	36508	30423	28819	27384	5.7	11.5
20	27	18	48	35156	29297	27751	26370	5.9	11.9
20	28	18	48	33900	28250	26760	25428	6.2	12.3
16	24	18	48	31640	26367	24976	23733	6.6	13.2
16	25	18	48	30375	25312	23977	22783	6.9	13.8
16	26	18	48	29206	24339	23055	21907	7.2	14.3
16	27	18	48	28125	23437	22201	21096	7.4	14.9
16	28	18	48	27120	22600	21408	20342	7.7	15.4



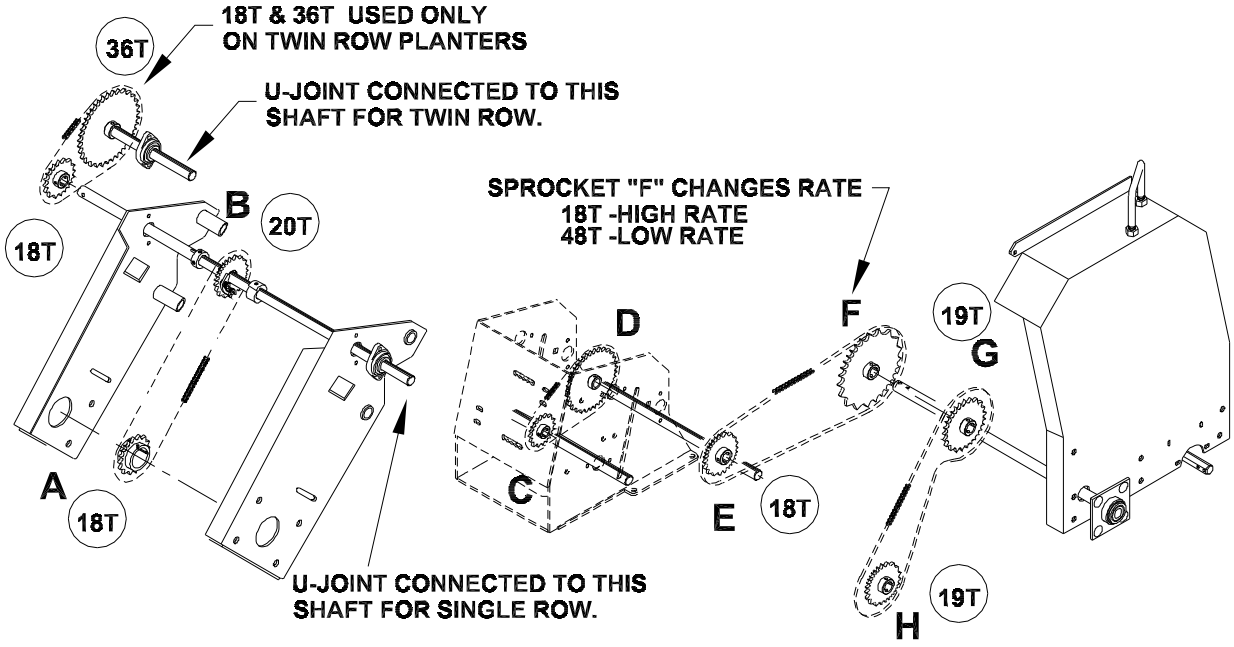
Planter Populations - 90 Cell Plate
High Rate

C	D	E	F	TWIN ROW and SINGLE ROW 30"ROW POP.	36"ROW POP.	38"ROW POP.	40"ROW POP.	SINGLE ROW SEED SPACING IN EACH ROW	TWIN ROW SEED SPACING IN EACH ROW
35	24	18	18	259548	216291	204884	194682	0.8	1.6
35	25	18	18	249166	207639	196689	186895	0.8	1.7
35	26	18	18	239583	199653	189124	179706	0.9	1.7
35	27	18	18	230710	192259	182119	173051	0.9	1.8
35	28	18	18	222470	185392	175615	166870	0.9	1.9
29	24	18	18	215054	179212	169761	161308	1.0	1.9
29	25	18	18	206452	172044	162970	154855	1.0	2.0
29	26	18	18	198512	165427	156702	148899	1.1	2.1
29	27	18	18	191159	159300	150899	143385	1.1	2.2
29	28	18	18	184332	153611	145509	138264	1.1	2.3
24	24	18	18	177976	148314	140492	133496	1.2	2.3
24	25	18	18	170857	142381	134872	128156	1.2	2.4
24	26	18	18	164285	136905	129685	123227	1.3	2.5
24	27	18	18	158201	131834	124882	118663	1.3	2.6
24	28	18	18	152551	127126	120422	114425	1.4	2.7
20	24	18	18	148313	123595	117077	111247	1.4	2.8
20	25	18	18	142381	118651	112393	106797	1.5	2.9
20	26	18	18	136905	114087	108071	102689	1.5	3.1
20	27	18	18	131834	109862	104068	98886	1.6	3.2
20	28	18	18	127126	105938	100351	95354	1.6	3.3
16	24	18	18	118651	98876	93661	88997	1.8	3.5
16	25	18	18	113905	94921	89915	85438	1.8	3.7
16	26	18	18	109524	91270	86456	82151	1.9	3.8
16	27	18	18	105467	87890	83254	79109	2.0	4.0
16	28	18	18	101701	84751	80281	76283	2.1	4.1



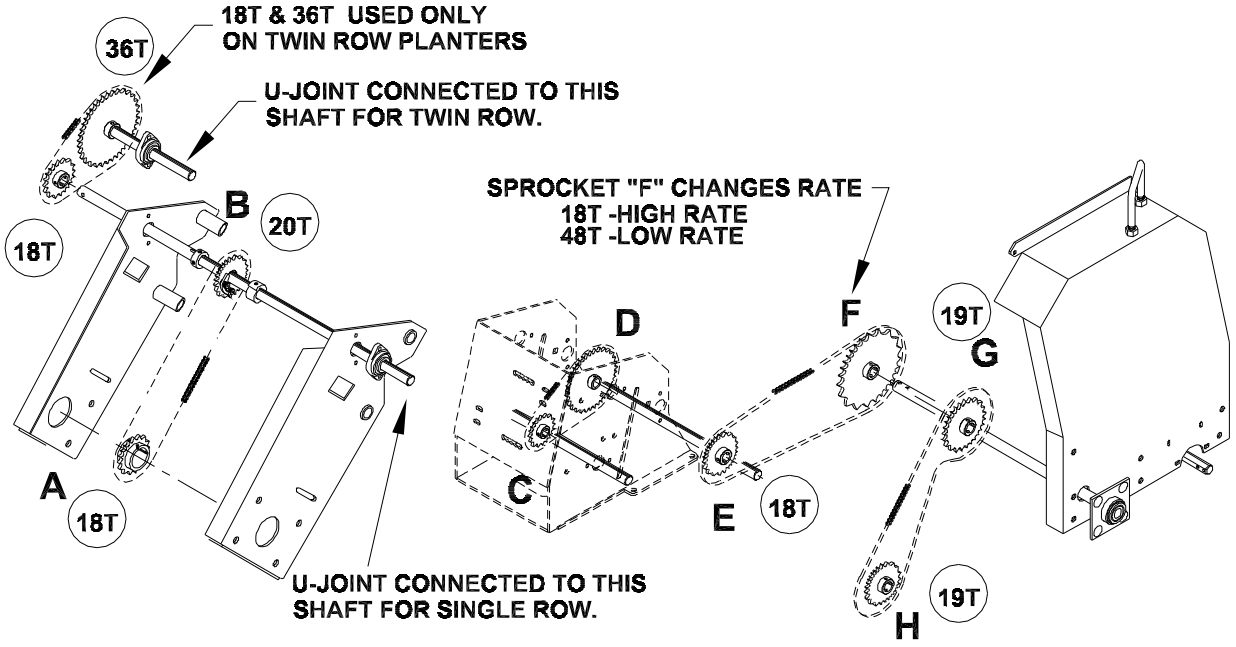
Planter Populations - 90 Cell Plate
Low Rate

C	D	E	F	TWIN ROW and SINGLE ROW 30"ROW POP.	36"ROW POP.	38"ROW POP.	40"ROW POP.	SINGLE ROW SEED SPACING IN EACH ROW	TWIN ROW SEED SPACING IN EACH ROW
35	24	18	48	97331	81109	76831	73006	2.1	4.3
35	25	18	48	93437	77865	73758	70085	2.2	4.5
35	26	18	48	89844	74870	70921	67390	2.3	4.7
35	27	18	48	86516	72097	68295	64894	2.4	4.8
35	28	18	48	83426	69522	65856	62576	2.5	5.0
29	24	18	48	80645	67205	63660	60490	2.6	5.2
29	25	18	48	77420	64516	61114	58071	2.7	5.4
29	26	18	48	74442	62035	58763	55837	2.8	5.6
29	27	18	48	71685	59737	56587	53769	2.9	5.8
29	28	18	48	69125	57604	54566	51849	3.0	6.0
24	24	18	48	66741	55618	52684	50061	3.1	6.3
24	25	18	48	64071	53393	50577	48059	3.3	6.5
24	26	18	48	61607	51339	48632	46210	3.4	6.8
24	27	18	48	59325	49438	46831	44499	3.5	7.0
24	28	18	48	57207	47672	45158	42909	3.7	7.3
20	24	18	48	55617	46348	43904	41718	3.8	7.5
20	25	18	48	53393	44494	42148	40049	3.9	7.8
20	26	18	48	51339	42783	40526	38508	4.1	8.1
20	27	18	48	49438	41198	39026	37082	4.2	8.5
20	28	18	48	47672	39727	37632	35758	4.4	8.8
16	24	18	48	44494	37078	35123	33374	4.7	9.4
16	25	18	48	42714	35595	33718	32039	4.9	9.8
16	26	18	48	41071	34226	32421	30807	5.1	10.2
16	27	18	48	39550	32959	31220	29666	5.3	10.6
16	28	18	48	38138	31782	30105	28606	5.5	11.0



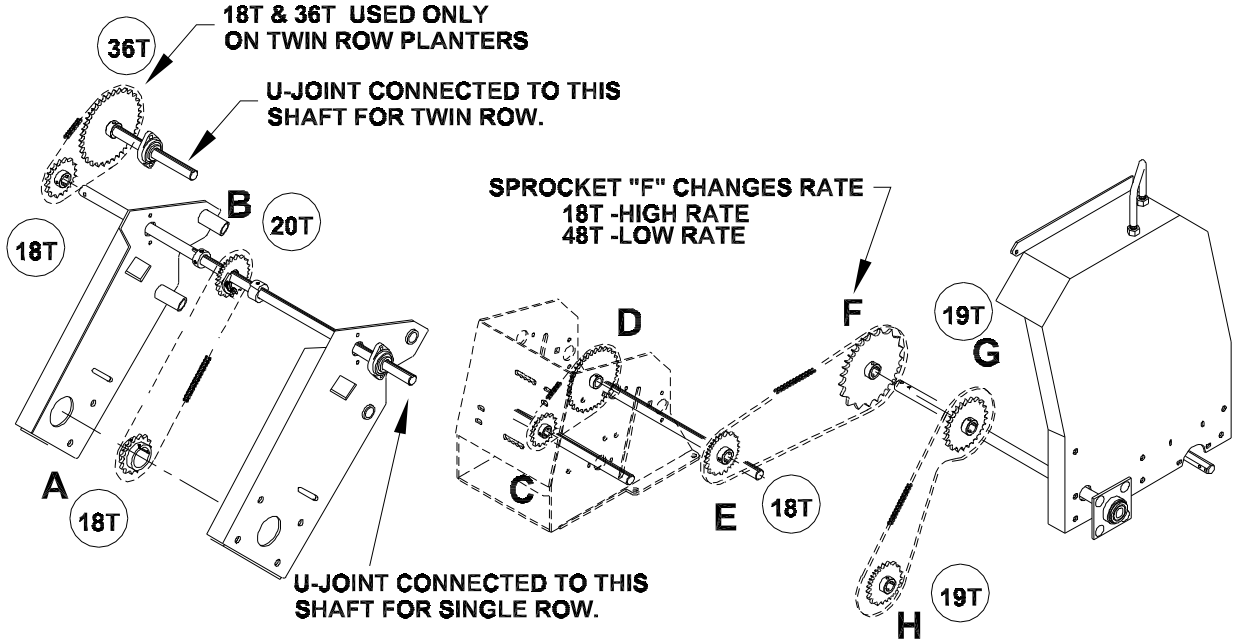
Planter Populations - 108 Cell Plate
High Rate

C	D	E	F	TWIN ROW and SINGLE ROW 30"ROW POP.	36"ROW POP.	38"ROW POP.	40"ROW POP.	SINGLE ROW SEED SPACING IN EACH ROW	TWIN ROW SEED SPACING IN EACH ROW
35	24	18	18	311458	259549	245861	233618	0.7	1.3
35	25	18	18	299000	249167	236026	224273	0.7	1.4
35	26	18	18	287500	239584	226948	215648	0.7	1.5
35	27	18	18	276851	230710	218543	207661	0.8	1.5
35	28	18	18	266964	222471	210738	200244	0.8	1.6
29	24	18	18	258065	215055	203713	193569	0.8	1.6
29	25	18	18	247742	206453	195565	185827	0.8	1.7
29	26	18	18	238214	198512	188043	178679	0.9	1.8
29	27	18	18	229391	191160	181078	172062	0.9	1.8
29	28	18	18	221199	184333	174611	165917	0.9	1.9
24	24	18	18	213571	177976	168590	160195	1.0	2.0
24	25	18	18	205028	170857	161847	153788	1.0	2.0
24	26	18	18	197143	164286	155622	147873	1.1	2.1
24	27	18	18	189841	158201	149858	142396	1.1	2.2
24	28	18	18	183061	152551	144506	137310	1.1	2.3
20	24	18	18	177976	148314	140492	133496	1.2	2.3
20	25	18	18	170857	142381	134872	128156	1.2	2.4
20	26	18	18	164285	136905	129685	123227	1.3	2.5
20	27	18	18	158201	131834	124882	118663	1.3	2.6
20	28	18	18	152551	127126	120422	114425	1.4	2.7
16	24	18	18	142381	118651	112393	106797	1.5	2.9
16	25	18	18	136685	113905	107898	102525	1.5	3.1
16	26	18	18	131428	109524	103748	98582	1.6	3.2
16	27	18	18	126561	105468	99905	94931	1.7	3.3
16	28	18	18	122041	101701	96337	91540	1.7	3.4



Planter Populations - 108 Cell Plate
Low Rate

C	D	E	F	TWIN ROW and SINGLE ROW 30"ROW POP.	36"ROW POP.	38"ROW POP.	40"ROW POP.	SINGLE ROW SEED SPACING IN EACH ROW	TWIN ROW SEED SPACING IN EACH ROW
35	24	18	48	116797	97331	92198	87607	1.8	3.6
35	25	18	48	112125	93438	88510	84103	1.9	3.7
35	26	18	48	107812	89844	85106	80868	1.9	3.9
35	27	18	48	103819	86516	81954	77873	2.0	4.0
35	28	18	48	100111	83426	79027	75092	2.1	4.2
29	24	18	48	96774	80646	76392	72589	2.2	4.3
29	25	18	48	92903	77420	73337	69685	2.3	4.5
29	26	18	48	89330	74442	70516	67005	2.3	4.7
29	27	18	48	86022	71685	67904	64523	2.4	4.9
29	28	18	48	82949	69125	65479	62219	2.5	5.0
24	24	18	48	80089	66741	63221	60073	2.6	5.2
24	25	18	48	76886	64072	60692	57670	2.7	5.4
24	26	18	48	73928	61607	58358	55452	2.8	5.7
24	27	18	48	71190	59325	56197	53398	2.9	5.9
24	28	18	48	68648	57207	54190	51491	3.0	6.1
20	24	18	48	66741	55618	52684	50061	3.1	6.3
20	25	18	48	64071	53393	50577	48059	3.3	6.5
20	26	18	48	61607	51339	48632	46210	3.4	6.8
20	27	18	48	59325	49438	46831	44499	3.5	7.0
20	28	18	48	57207	47672	45158	42909	3.7	7.3
16	24	18	48	53393	44494	42148	40049	3.9	7.8
16	25	18	48	51257	42714	40462	38447	4.1	8.2
16	26	18	48	49286	41071	38905	36968	4.2	8.5
16	27	18	48	47460	39550	37464	35599	4.4	8.8
16	28	18	48	45765	38138	36126	34328	4.6	9.1



Initial Meter Setting for Insecticide

Use the chemical manufacturers recommended rate for ounces per 1000 feet of row. Find this rate in the column under your desired planting speed. Move across chart to find a meter setting. Adjust dial on each insecticide meter.



Be careful when handling pesticides. Wear appropriate protective clothing. Follow all precautions listed on chemical label.

To check actual application rate, attach a plastic bag to each chemical drop; lower planter and move forward at planting speed 1000 feet. Weigh each bag to determine ounces per 1000 feet.

If the desired application rate is not achieved, adjust meter dial and repeat test.

If meters vary in application rate it may be necessary to reset them. This procedure is explained in *"Resetting Insecticide Meter"* section.

If chemical manufacturer's recommendations are not available, the following tables can be used to determine a starting rate.

Resetting Insecticide Meter



CAUTION:
Wear appropriate protective clothing when handling pesticides!

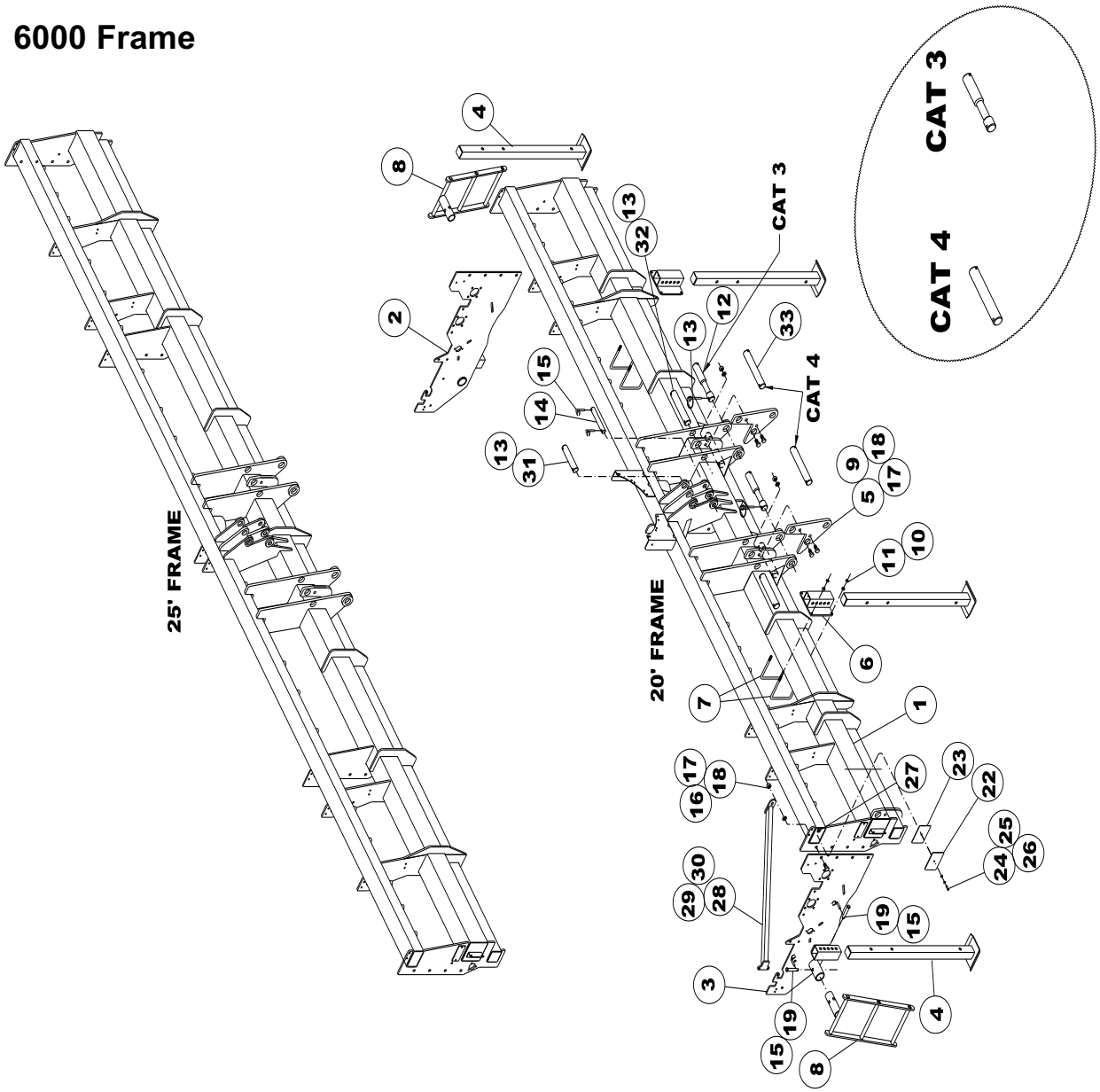
1. Turn dial on hopper to "10".
2. Remove hopper from planter by unlatching the front lower corners of the hopper and lifting up and pulling forward on the hopper.
3. Lay hopper upside down on a work bench.
4. With dial set on "10" the V-shaped opening should measure 4mm or 0.160 inches. If this measurement is right , the meter is set and can be re-installed on the planter.
5. If the meter needs set, remove it from the hopper by removing the 8 screws that attach it to the bottom of the hopper.
6. Remove cover from top of meter. This is attached by 4 screws.
7. Remove dial from splined shaft.
8. Adjust nut so V-shaped opening measures 4mm or 0.160 inches.
9. Replace dial on spline so the "0" lines up with the "1" and meter reads "10".
10. Replace meter cover and install meter back in hopper.

Meter Setting	SAND GRANULES - Approximate Rate in Lbs/Acre											
	30 inch rows MPH			36 inch rows MPH			38 inch rows MPH			Ounces per 1000 row feet MPH		
	4	6	8	4	6	8	4	6	8	4	6	8
6	1.6	1.1	0.8	1.3	0.9	0.7	1.3	0.8	0.6	1.5	1.0	0.7
7	2.3	1.5	1.2	1.9	1.3	1.0	1.8	1.2	0.9	2.1	1.4	1.1
8	3.1	2.1	1.6	2.6	1.7	1.3	2.4	1.6	1.2	2.8	1.9	1.4
9	3.9	2.6	2.0	3.3	2.2	1.6	3.1	2.1	1.5	3.6	2.4	1.8
10	4.8	3.2	2.4	4.0	2.7	2.0	3.8	2.5	1.9	4.4	2.9	2.2
11	5.7	3.8	2.9	4.8	3.2	2.4	4.5	3.0	2.3	5.2	3.5	2.6
12	6.7	4.5	3.4	5.6	3.7	2.8	5.3	3.5	2.6	6.2	4.1	3.1
13	7.7	5.1	3.9	6.4	4.3	3.2	6.1	4.1	3.0	7.1	4.7	3.5
14	8.8	5.9	4.4	7.3	4.9	3.7	6.9	4.6	3.5	8.1	5.4	4.0
15	9.8	6.5	4.9	8.2	5.4	4.1	7.7	5.2	3.9	9.0	6.0	4.5
16	10.7	7.1	5.4	8.9	5.9	4.5	8.4	5.6	4.2	9.8	6.6	4.9
17	11.6	7.7	5.8	9.7	6.4	4.8	9.2	6.1	4.6	10.7	7.1	5.3
18	12.5	8.3	6.3	10.4	6.9	5.2	9.9	6.6	4.9	11.5	7.7	5.7
19	13.3	8.9	6.7	11.1	7.4	5.5	10.5	7.0	5.3	12.2	8.1	6.1
20	14.2	9.5	7.1	11.8	7.9	5.9	11.2	7.5	5.6	13.0	8.7	6.5
21	15.1	10.1	7.6	12.6	8.4	6.3	11.9	7.9	6.0	13.9	9.2	6.9
22	16.0	10.7	8.0	13.3	8.9	6.7	12.6	8.4	6.3	14.7	9.8	7.3
23	16.9	11.3	8.5	14.1	9.4	7.0	13.3	8.9	6.7	15.5	10.3	7.8
24	17.8	11.9	8.9	14.8	9.9	7.4	14.1	9.4	7.0	16.3	10.9	8.2
25	18.7	12.5	9.4	15.6	10.4	7.8	14.8	9.8	7.4	17.2	11.4	8.6
26	19.7	13.1	9.9	16.4	10.9	8.2	15.6	10.4	7.8	18.1	12.1	9.0
27	20.6	13.7	10.3	17.2	11.4	8.6	16.3	10.8	8.1	18.9	12.6	9.5
28	21.6	14.4	10.8	18.0	12.0	9.0	17.1	11.4	8.5	19.8	13.2	9.9
29	22.6	15.1	11.3	18.8	12.6	9.4	17.8	11.9	8.9	20.8	13.8	10.4
30	23.6	15.7	11.8	19.7	13.1	9.8	18.6	12.4	9.3	21.7	14.4	10.8
31	24.7	16.5	12.4	20.6	13.7	10.3	19.5	13.0	9.8	22.7	15.1	11.3
32	25.7	17.1	12.9	21.4	14.3	10.7	20.3	13.5	10.1	23.6	15.7	11.8
33	26.8	17.9	13.4	22.3	14.9	11.2	21.2	14.1	10.6	24.6	16.4	12.3
34	27.9	18.6	14.0	23.3	15.5	11.6	22.0	14.7	11.0	25.6	17.1	12.8
35	29.0	19.3	14.5	24.2	16.1	12.1	22.9	15.3	11.4	26.6	17.8	13.3
36	30.2	20.1	15.1	25.2	16.8	12.6	23.8	15.9	11.9	27.7	18.5	13.9
37	31.4	20.9	15.7	26.2	17.4	13.1	24.8	16.5	12.4	28.8	19.2	14.4
38	32.6	21.7	16.3	27.2	18.1	13.6	25.7	17.2	12.9	29.9	20.0	15.0
39	33.8	22.5	16.9	28.2	18.8	14.1	26.7	17.8	13.3	31.0	20.7	15.5
40	35.0	23.3	17.5	29.2	19.4	14.6	27.6	18.4	13.8	32.1	21.4	16.1
41	36.3	24.2	18.2	30.3	20.2	15.1	28.7	19.1	14.3	33.3	22.2	16.7
42	37.6	25.1	18.8	31.3	20.9	15.7	29.7	19.8	14.8	34.5	23.0	17.3
43	38.9	25.9	19.5	32.4	21.6	16.2	30.7	20.5	15.4	35.7	23.8	17.9
44	40.2	26.8	20.1	33.5	22.3	16.8	31.7	21.2	15.9	36.9	24.6	18.5
45	41.6	27.7	20.8	34.7	23.1	17.3	32.8	21.9	16.4	38.2	25.5	19.1
46	43.0	28.7	21.5	35.8	23.9	17.9	33.9	22.6	17.0	39.5	26.3	19.7
47	44.4	29.6	22.2	37.0	24.7	18.5	35.1	23.4	17.5	40.8	27.2	20.4
48	45.9	30.6	23.0	38.3	25.5	19.1	36.2	24.2	18.1	42.1	28.1	21.1
49	47.3	31.5	23.7	39.4	26.3	19.7	37.3	24.9	18.7	43.4	29.0	21.7
50	48.9	32.6	24.5	40.8	27.2	20.4	38.6	25.7	19.3	44.9	29.9	22.5

Meter Setting	LIGHT CLAY GRANULES - Approximate Rate inLbs/Acre								
	30 inch rows MPH			36 inch rows MPH			38 inch rows MPH		
	4	6	8	4	6	8	4	6	8
10	2.1	1.4	1.1	1.7	1.2	0.9	1.7	1.1	0.9
11	2.5	1.6	1.2	2.1	1.4	1.0	2.0	1.3	1.0
12	3.0	1.9	1.4	2.5	1.6	1.2	2.3	1.5	1.1
13	3.5	2.3	1.7	2.9	1.9	1.4	2.8	1.8	1.3
14	4.0	2.6	2.0	3.3	2.2	1.6	3.2	2.1	1.5
15	4.8	3.1	2.3	4.0	2.6	1.9	3.8	2.4	1.8
16	5.5	3.6	2.6	4.6	3.0	2.2	4.4	2.8	2.1
17	6.2	4.0	2.9	5.1	3.3	2.4	4.9	3.2	2.3
18	6.7	4.4	3.2	5.6	3.6	2.7	5.3	3.4	2.5
19	7.2	4.7	3.4	6.0	3.9	2.8	5.7	3.7	2.7
20	7.9	5.1	3.7	6.6	4.2	3.1	6.2	4.0	2.9
21	8.4	5.4	4.0	7.0	4.5	3.3	6.6	4.3	3.1
22	9.0	5.8	4.2	7.5	4.8	3.5	7.1	4.6	3.4
23	9.5	6.1	4.5	7.9	5.1	3.7	7.5	4.8	3.5
24	10.1	6.5	4.7	8.4	5.4	3.9	8.0	5.1	3.7
25	10.6	6.7	4.9	8.8	5.6	4.1	8.4	5.3	3.9
26	11.1	7.1	5.2	9.2	5.9	4.3	8.7	5.6	4.1
27	11.7	7.4	5.4	9.8	6.2	4.5	9.2	5.9	4.3
28	12.3	7.8	5.6	10.3	6.5	4.6	9.6	6.2	4.4
29	12.8	8.1	5.8	10.7	6.7	4.8	10.1	6.4	4.6
30	13.2	8.4	6.1	11.0	7.0	5.1	10.4	6.6	4.8
31	13.5	8.6	6.3	11.3	7.2	5.2	10.7	6.8	4.9
32	14.1	8.9	6.5	11.7	7.5	5.4	11.1	7.1	5.1
33	14.6	9.2	6.7	12.1	7.7	5.6	11.5	7.3	5.3
34	15.1	9.6	6.9	12.6	8.0	5.8	11.9	7.6	5.5
35	15.7	9.9	7.1	13.1	8.3	6.0	12.4	7.8	5.6
36	16.2	10.2	7.4	13.5	8.5	6.2	12.8	8.1	5.8
37	16.6	10.5	7.7	13.9	8.7	6.4	13.1	8.3	6.0
38	17.3	10.9	7.9	14.4	9.0	6.5	13.7	8.6	6.2
39	17.6	11.1	8.0	14.7	9.2	6.7	13.9	8.7	6.3
40	18.0	11.4	8.2	15.0	9.5	6.9	14.2	9.0	6.5
41	18.4	11.5	8.4	15.4	9.6	7.0	14.5	9.1	6.6
42	19.0	11.9	8.7	15.8	9.9	7.2	15.0	9.4	6.8
43	19.8	12.4	9.0	16.5	10.4	7.5	15.6	9.8	7.1
44	20.3	12.8	9.3	16.9	10.6	7.7	16.0	10.1	7.3
45	21.5	13.5	9.7	17.9	11.2	8.1	16.9	10.7	7.7
46	22.4	14.2	10.3	18.7	11.8	8.6	17.7	11.2	8.2
47	23.9	15.2	11.0	19.9	12.7	9.2	18.9	12.0	8.7
48	25.1	16.0	11.7	20.9	13.3	9.7	19.8	12.6	9.2
49	26.5	17.0	12.3	22.1	14.2	10.3	20.9	13.5	9.7
50	28.1	18.3	13.4	23.5	15.3	11.2	22.2	14.4	10.6
51	29.7	19.5	14.4	24.7	16.3	12.0	23.4	15.4	11.3
52	31.4	20.8	15.4	26.2	17.3	12.9	24.8	16.4	12.2
53	33.0	22.0	16.5	27.5	18.4	13.7	26.0	17.4	13.0
54	34.9	23.4	17.6	29.1	19.5	14.7	27.6	18.5	13.9
55	36.8	24.8	19.0	30.7	20.7	15.9	29.1	19.6	15.0
56	38.0	25.9	20.2	31.7	21.6	16.8	30.0	20.5	15.9
57	40.0	27.4	21.5	33.4	22.8	17.9	31.6	21.6	17.0
58	41.7	28.7	22.5	34.7	24.0	18.7	32.9	22.7	17.7
59	43.0	29.7	23.5	35.8	24.8	19.6	33.9	23.4	18.6
60	44.6	31.0	24.7	37.1	25.9	20.6	35.2	24.5	19.5

Meter Setting	HEAVY CLAY GRANULES -Approximate Rate in Lbs/Acre									Ounces per 1000 row feet MPH		
	30 inch rows MPH			36 inch rows MPH			38 inch rows MPH					
	4	6	8	4	6	8	4	6	8	4	6	8
10	2.5	1.7	1.3	2.1	1.4	1.0	2.0	1.3	1.0	2.3	1.5	1.1
11	3.0	2.0	1.5	2.5	1.7	1.3	2.4	1.6	1.2	2.8	1.8	1.4
12	3.6	2.4	1.8	3.0	2.0	1.5	2.9	1.9	1.4	3.3	2.2	1.7
13	4.4	2.9	2.2	3.6	2.4	1.8	3.5	2.3	1.7	4.0	2.7	2.0
14	5.3	3.5	2.6	4.4	2.9	2.2	4.1	2.8	2.1	4.8	3.2	2.4
15	6.0	4.0	3.0	5.0	3.3	2.5	4.7	3.2	2.4	5.5	3.7	2.8
16	6.8	4.5	3.4	5.7	3.8	2.8	5.4	3.6	2.7	6.3	4.2	3.1
17	7.6	5.1	3.8	6.3	4.2	3.2	6.0	4.0	3.0	7.0	4.7	3.5
18	8.2	5.5	4.1	6.8	4.6	3.4	6.5	4.3	3.2	7.5	5.0	3.8
19	8.7	5.8	4.4	7.3	4.8	3.6	6.9	4.6	3.4	8.0	5.3	4.0
20	9.3	6.2	4.7	7.8	5.2	3.9	7.4	4.9	3.7	8.6	5.7	4.3
21	9.8	6.5	4.9	8.2	5.4	4.1	7.7	5.2	3.9	9.0	6.0	4.5
22	10.3	6.8	5.1	8.6	5.7	4.3	8.1	5.4	4.1	9.4	6.3	4.7
23	10.7	7.1	5.4	8.9	6.0	4.5	8.5	5.6	4.2	9.8	6.6	4.9
24	11.2	7.5	5.6	9.3	6.2	4.7	8.8	5.9	4.4	10.3	6.8	5.1
25	11.6	7.7	5.8	9.6	6.4	4.8	9.1	6.1	4.6	10.6	7.1	5.3
26	11.9	7.9	6.0	9.9	6.6	5.0	9.4	6.3	4.7	10.9	7.3	5.5
27	12.4	8.3	6.2	10.3	6.9	5.2	9.8	6.5	4.9	11.4	7.6	5.7
28	12.7	8.5	6.4	10.6	7.1	5.3	10.1	6.7	5.0	11.7	7.8	5.8
29	13.2	8.8	6.6	11.0	7.3	5.5	10.4	6.9	5.2	12.1	8.1	6.1
30	13.5	9.0	6.8	11.3	7.5	5.6	10.7	7.1	5.3	12.4	8.3	6.2
31	13.8	9.2	6.9	11.5	7.6	5.7	10.9	7.2	5.4	12.6	8.4	6.3
32	14.2	9.5	7.1	11.9	7.9	5.9	11.2	7.5	5.6	13.1	8.7	6.5
33	14.6	9.7	7.3	12.2	8.1	6.1	11.5	7.7	5.8	13.4	8.9	6.7
34	15.1	10.1	7.6	12.6	8.4	6.3	11.9	7.9	6.0	13.9	9.2	6.9
35	15.6	10.4	7.8	13.0	8.7	6.5	12.3	8.2	6.2	14.3	9.6	7.2
36	16.1	10.7	8.0	13.4	8.9	6.7	12.7	8.5	6.3	14.8	9.8	7.4
37	16.5	11.0	8.2	13.7	9.2	6.9	13.0	8.7	6.5	15.1	10.1	7.6
38	17.0	11.3	8.5	14.2	9.4	7.1	13.4	8.9	6.7	15.6	10.4	7.8
39	17.5	11.7	8.7	14.6	9.7	7.3	13.8	9.2	6.9	16.1	10.7	8.0
40	18.0	12.0	9.0	15.0	10.0	7.5	14.2	9.5	7.1	16.5	11.0	8.2
41	18.4	12.3	9.2	15.3	10.2	7.7	14.5	9.7	7.3	16.9	11.3	8.4
42	19.1	12.7	9.6	15.9	10.6	8.0	15.1	10.1	7.5	17.6	11.7	8.8
43	20.0	13.3	10.0	16.7	11.1	8.3	15.8	10.5	7.9	18.4	12.2	9.2
44	21.0	14.0	10.5	17.5	11.7	8.8	16.6	11.1	8.3	19.3	12.9	9.6
45	22.1	14.8	11.1	18.4	12.3	9.2	17.5	11.6	8.7	20.3	13.5	10.2
46	23.4	15.6	11.7	19.5	13.0	9.7	18.5	12.3	9.2	21.5	14.3	10.7
47	24.5	16.3	12.3	20.4	13.6	10.2	19.3	12.9	9.7	22.5	15.0	11.2
48	25.6	17.1	12.8	21.4	14.2	10.7	20.2	13.5	10.1	23.5	15.7	11.8
49	26.8	17.8	13.4	22.3	14.9	11.1	21.1	14.1	10.6	24.6	16.4	12.3
50	27.9	18.6	13.9	23.2	15.5	11.6	22.0	14.7	11.0	25.6	17.1	12.8
51	29.0	19.3	14.5	24.2	16.1	12.1	22.9	15.3	11.4	26.6	17.8	13.3
52	30.3	20.2	15.1	25.2	16.8	12.6	23.9	15.9	11.9	27.8	18.5	13.9
53	31.6	21.1	15.8	26.4	17.6	13.2	25.0	16.6	12.5	29.0	19.4	14.5
54	33.0	22.0	16.5	27.5	18.3	13.8	26.1	17.4	13.0	30.3	20.2	15.2
55	34.5	23.0	17.3	28.8	19.2	14.4	27.2	18.2	13.6	31.7	21.1	15.8
56	36.0	24.0	18.0	30.0	20.0	15.0	28.4	18.9	14.2	33.1	22.0	16.5
57	37.4	24.9	18.7	31.1	20.8	15.6	29.5	19.7	14.8	34.3	22.9	17.2
58	38.9	25.9	19.4	32.4	21.6	16.2	30.7	20.5	15.3	35.7	23.8	17.8
59	40.4	26.9	20.2	33.6	22.4	16.8	31.9	21.2	15.9	37.1	24.7	18.5
60	41.6	27.8	20.8	34.7	23.1	17.3	32.9	21.9	16.4	38.2	25.5	19.1

6000 Frame

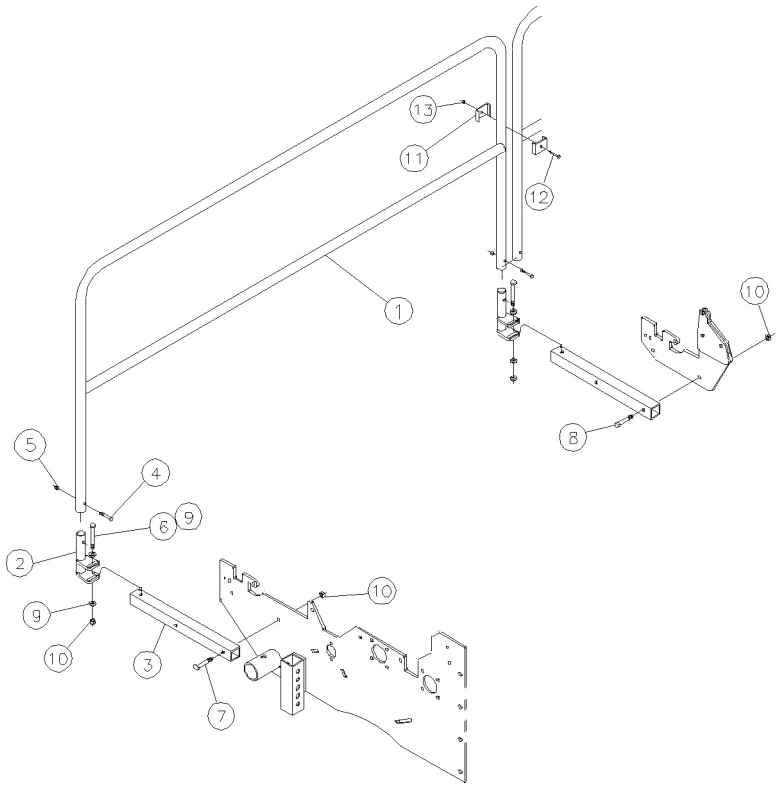


Item	Part No.	Description
1	980771	20' Frame
	980805	25' Frame
2	978163	End Plate Left -2.7 Bu Box
	978080	End Plate Left -7 Bu Box
3	978171	End Plate Right -2.7 Bu Box
	978072	End Plate Left -7 Bu Box
4	978148	Rear Jack Stand
5	32371700	Bolt On Hitch Pin Plate
6	978189	Front Hitch Mount
7	338962	U-Bolt ½" x 7 x 8
8	974428	Ladder
9	335174	HHCS 3/4" x 2½"
10	330142	Lock Washer ½"
11	330134	Hex Nut ½"
12	883025	Pin 2 x 11 3/4 w/Roll Pin -Cat 3
13	338384	Klik Pin 7/16" w/2 1/16" Ring
14	314815	Pin 1 1/4" x 9 11/16"
15	330456	Klik Pin 7/16"

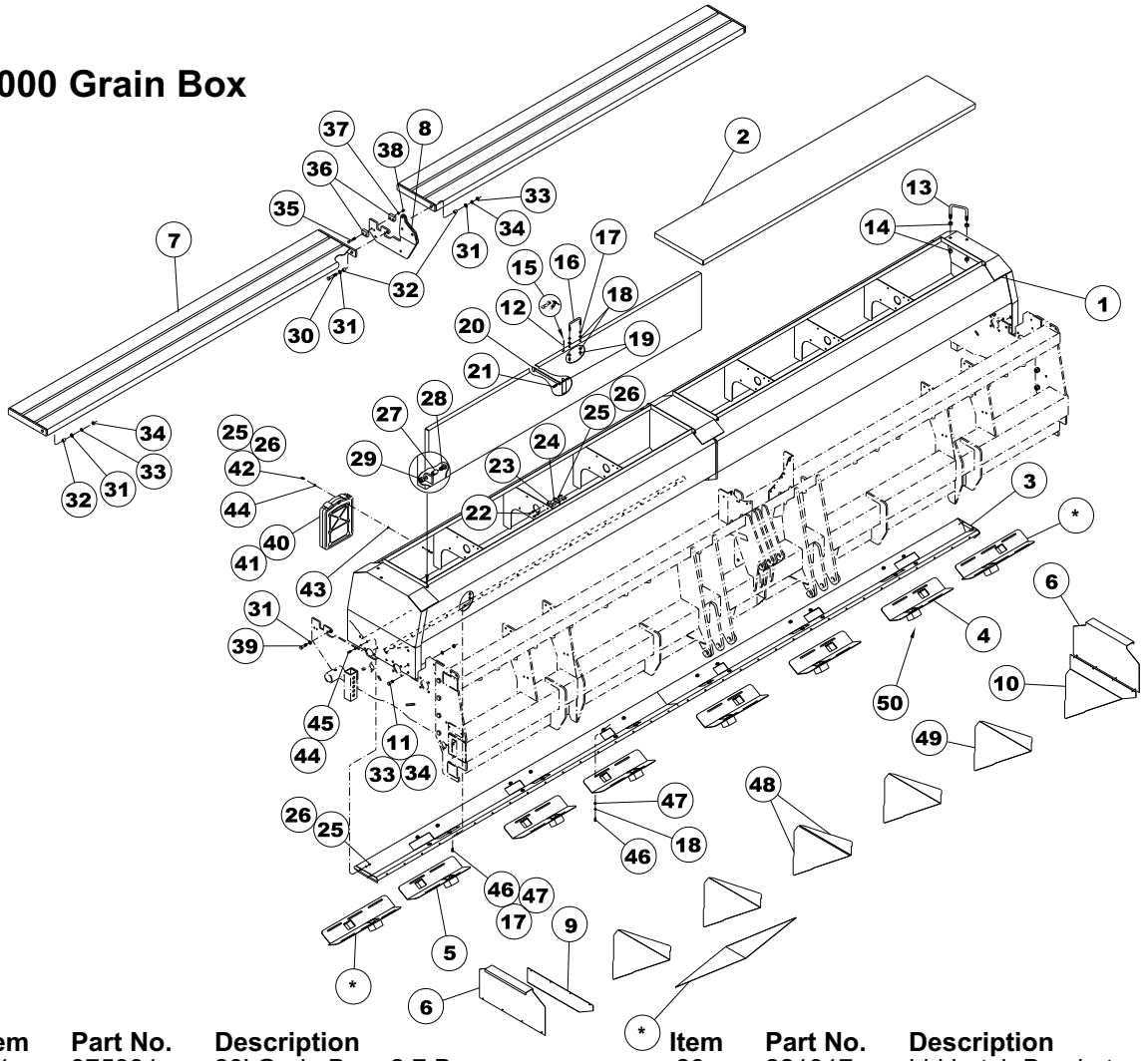
Item	Part No.	Description
16	335125	HHCS 3/4" x 2"
17	330332	Lock Washer 3/4"
18	330290	Hex Nut 3/4"
19	330449	Pin 3/4" x 4"
20	330043	Lock Washer 3/4"
21	330035	Hex Nut 3/8"
22	244665	End Cap
23	572420	End Cap Gasket
24	01011600	HHCS 5/16" x 1 1/4"
25	330845	Lock Washer 5/16"
26	330852	Flat Washer 5/16"
27	01574300	Clip Nut 5/16"
28	980763	Box Frame Support -20' Frame
	981225	Box Frame Support -25' Frame
29	01147800	HHCS ½" x 1½"
30	331363	Nylock ½"
31	314955	Pin 1 3/4" x 9 3/16"
32	314948	Pin 2" x 10 17/64"
33	883033	Pin 2 x 11 3/4 w/Roll Pin -Cat 4

#880427 -Hand Rail Assembly -20'
#881292 -Hand Rail Assembly -25'

Item	Qty	Part No.	Description
1	2	977041	Hand Rail -20' Frame
	2	978460	Hand Rail -25' Frame
2	4	977033	Mount Bracket
3	4	123810	Mount Tube
4	4	02440600	HHCS 5/16" x 2 1/4"
5	4	331611	Nylock 5/16"
6	4	330092	HHCS ½" x 4"
7	4	334946	HHCS ½" x 3"
8	2	330126	HHCS ½" x 5½"
9	8	330159	Flat Washer ½"
10	6	331363	Nylock ½"
11	2	278721	Rail Clamp
12	1	330514	HHCS 1/4" x 2"
13	1	330522	Nylock 1/4"



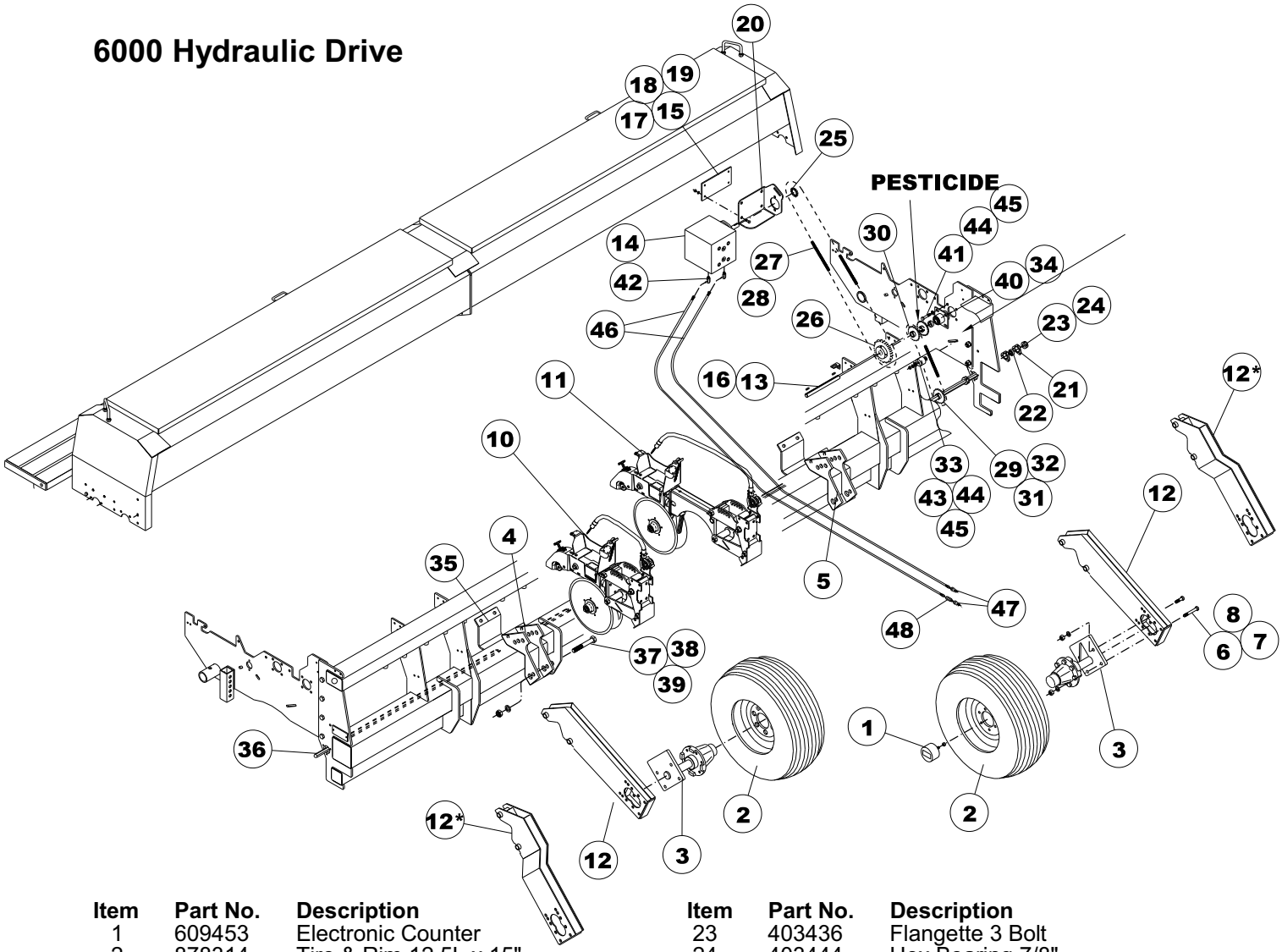
6000 Grain Box



Item	Part No.	Description
1	975391	20' Grain Box -2.7 Bu
	978122	20' Grain Box -7 Bu
	978456	25' Grain Box -2.7 Bu
	981241	25' Grain Box -7 Bu
2	975409	20' Box Lid -2.7 Bu
	978130	20' Box Lid -7 Bu
	978502	25' Box Lid -2.7 Bu
	981340	25' Box Lid -7 Bu
3	976803	20' Box Bottom
	978411	25' Box Bottom Lt -2.7 Bu
	978729	25' Box Bottom Rt -2.7 Bu
	981258	25' Box Bottom Lt -7 Bu
	981266	25' Box Bottom Rt -7 Bu
4	976811	Box Bottom Slide Left
*	977280	Outside Slide Left -25' Only
5	976936	Box Bottom Slide Right
*	977298	Outside Slide Right -25' Only
6	273979	Baffle -Top Outer -20' Only
7	973594	20' Walkboard
	973826	25' Walkboard
8	976449	Walkboard Center Bracket
9	276709	Baffle-Lower Outer Lt -20' Only
10	276691	Baffle-Lower Outer Rt-20' Only
11	01147800	HHCS ½" x 1½"
12	601989	Rivet 3/16 x 1/4
13	335737	U-bolt 5/8" x 4 x 3 1/4
14	330571	Hex Nut 5/8"
15	570341	Drill Lid Latch
16	308122	Lid Handle
17	330811	Hex Nut 5/16"
18	330852	Flat Washer 5/16"
19	331611	Nylock 5/16"

Item	Part No.	Description
20	221317	Lid Latch Bracket
21	01010800	HHCS 5/16" x 1"
22	335133	HHCS 1/4" x 1 3/4"
23	145144	Lid Latch Bushing
24	190942	Lid Latch Plate
25	330050	Lock Washer 1/4"
26	332205	Hex Nut 1/4"
27	149385	Lid Bushing
28	335703	HHCS 3/8" x 1½"
29	330837	Nylock 3/8“
30	334946	HHCS ½" x 3"
31	330159	Flat Washer ½"
32	150086	Walkboard Bushing
33	330142	Lock Washer ½"
34	330134	Hex Nut ½"
35	331884	HHCS 3/8" x 2½"
36	236729	Walkboard Stop Plate
37	330043	Lock Washer 3/8"
38	330035	Hex Nut 3/8"
39	331926	HHCS ½" x 2"
40	607416	Manual Holder
41	611962	Owners Manual
42	01057900	HHCS 1/4" x 3/4"
43	605659	Grommet 1/4 x 5/8 x 11/32
44	02016400	Flat Washer 1/4"
45	331835	HHCS 1/4" x 1"
46	01144500	HHCS 5/16" x 3/4"
47	330845	Lock Washer 5/16"
48	277038	Baffle-Center -20' Only
49	276717	Baffle-Inner -20' Only
	272070	25' Baffle
50	615146	Seed Cup Plug

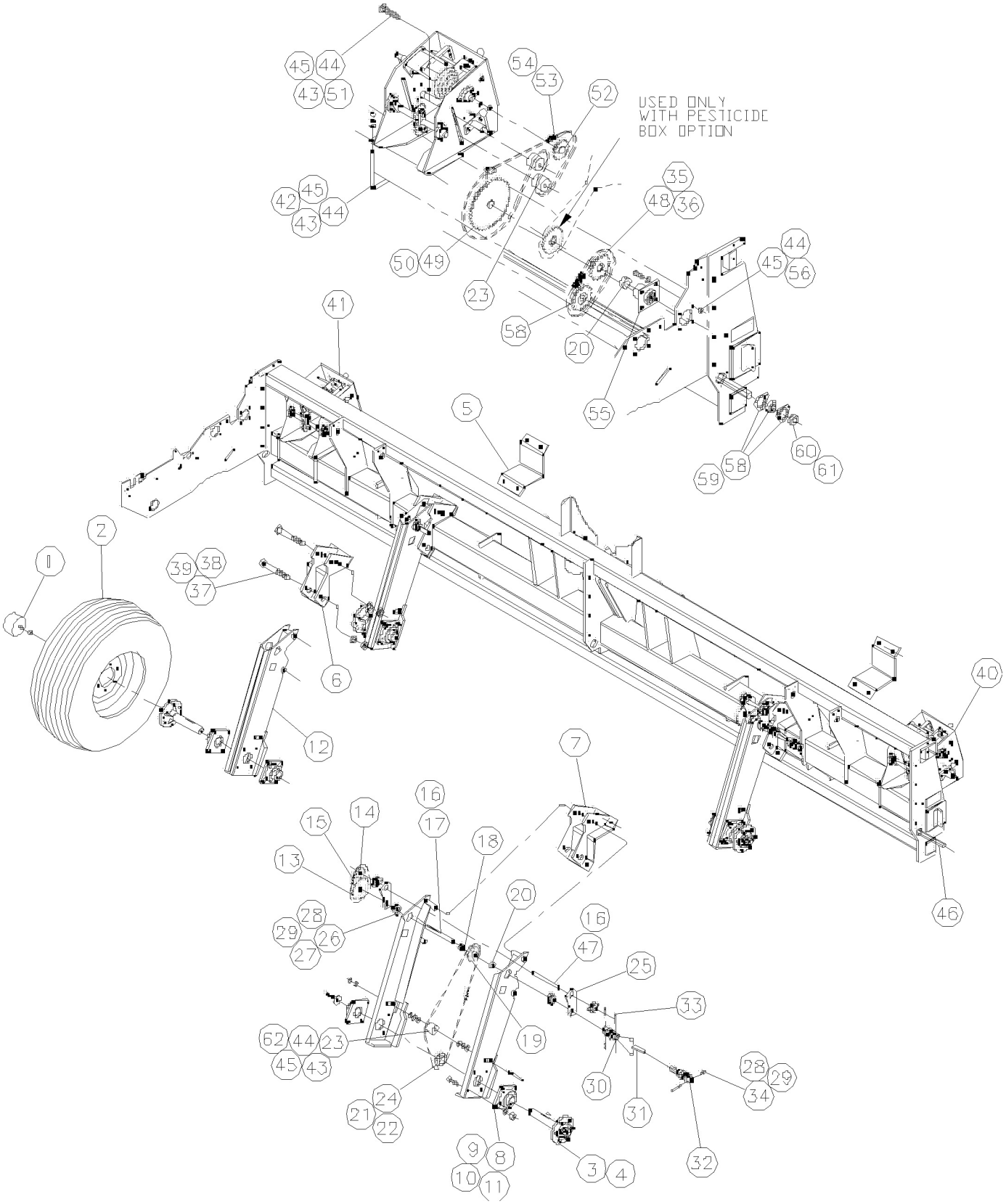
6000 Hydraulic Drive



Item	Part No.	Description
1	609453	Electronic Counter
2	878314	Tire & Rim 12.5L x 15"
	531491	Tire 12.5L x 15 12 Ply Lug
	530147	Wheel 6 Bolt 15 x 10
	530287	Tire Valve Stem
	02990000	Decal “Check Wheel Lugs”
3	868711	Wing Wheel Spindle
4	977520	Wheel Mount Bracket Right
5	977538	Wheel Mount Bracket Left
6	02274900	HHCS 5/8" x 5"
7	330878	Lock Washer 5/8"
8	330571	Hex Nut 5/8"
9		
10	881912	Opener Assembly Short
11	881904	Opener Assembly Long
12	977009	Wheel Arm
*	981385	Offset Wheel Arm Rt-7bu box
*	981357	Offset Wheel Arm Lt -7bu box
13	310524	Shaft 1" x 12"
14	612820	Hydraulic Motor HD4180
15	235085	Motor Mount Back Plate
16	602367	Key 1/4" x 1"
17	01158500	HHCS 3/8" x 1 1/4"
18	330043	Lock Washer 3/8"
19	330035	Hex Nut 3/8"
20	31695000	Motor Mount
21	639781	Sprocket Hub 7/8" Hex
22	334516	Set Screw 1/4-28 x 1/4

Item	Part No.	Description
23	403436	Flangette 3 Bolt
24	403444	Hex Bearing 7/8"
25	433037	Sprocket #40-48T
26	433003	Sprocket #40-40T -1" Hub
27	434100	Chain #40 x 59 Pitch
28	434084	Chain Connector #40
29	974535	Sprocket #50-18T -7/8" Hex
30	82581000	Sprocket #50-18T -1" Hub
31	434423	Chain #50 x 85 Pitch
32	433870	Chain Connector #50
33	571273	Nylon Idler
34	06409700	Set Collar 1"
35	977546	Wheel Mount Cap
36	314831	Hex Shaft 7/8" x 119.5"
37	334938	HHCS 1" x 7"
38	330399	Lock Washer 1"
39	330381	Hex Nut 1"
40	865733	Drive Bracket w/Bearing
41	01147800	HHCS ½" x 1½"
42	00542100	Adapter 45° 7/8MOR-7/8 JICM
43	330159	Flat Washer ½"
44	330142	Lock Washer ½"
45	330134	Hex Nut ½"
46	474312	Hose ½" x 185"
		3/4 MOR -7/8 JICF Swivel
47	465385	Male Coupler 3/4 FOR
48	473694	Check Valve 3/4-16 SAE

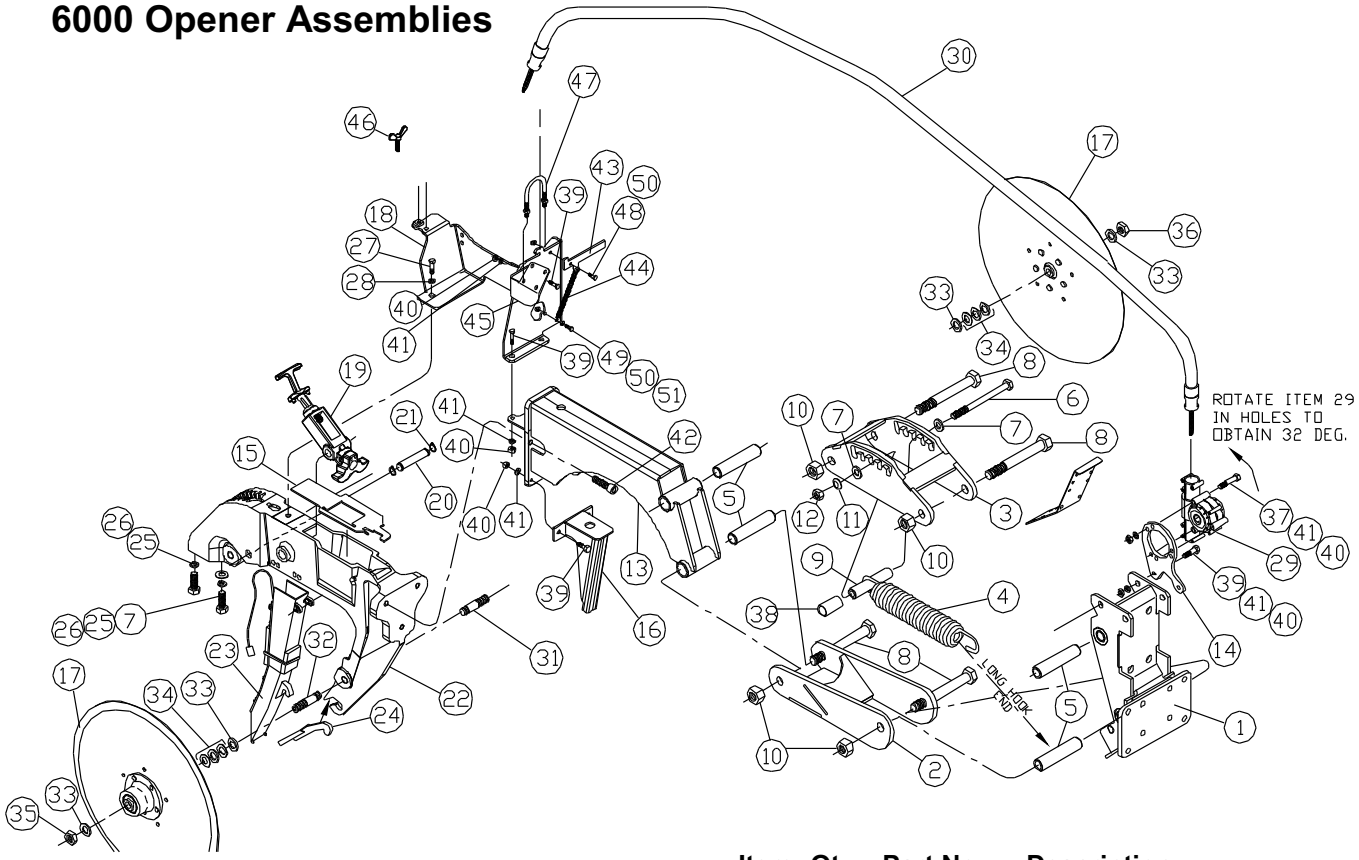
6000 Mechanical Rear Drive



6000 Mechanical Rear Drive

Item	Part No.	Description
1	609453	Electronic Counter
2	878314	Tire & Rim 12.5L x 15"
	531491	Tire 12.5L x 15 12 Ply Lug
	530147	Wheel 6 Bolt 15 x 10
	530287	Tire Valve Stem
	02990000	Decal “Check Wheel Lugs”
3	979492	Wing Wheel Spindle
4	605576	Key 3/16 x 1 1/4
5	977546	Wheel Mount Cap
6	977538	Wheel Mount Left Rear
7	977520	Wheel Mount Right Rear
8	403279	Bearing 2" 4B Flange Triple Seal
9	01071000	HHCS 5/8" x 2"
10	330878	Lock Washer 5/8"
11	330571	Hex Nut 5/8"
12	979500	Wheel Arm-Rear Mechanical
13	84723600	Sprocket #40-36T-1" Bore
14	974048	Sprocket #40-18T-1" w/KW
15	433011	Chain #40 x 47 Pitch
16	602367	Key 1/4" x 1"
17	313122	Shaft 1 x 10"
18	155358	Clutch Spool
19	877373	Clutch Assembly
20	06409700	Set Collar 1"
21	432674	Chain 2050 x 57 Pitch
22	430983	Chain 2050 Connector
23	571273	Nylon Idler
24	954370	Sprocket 2050 18T-2" B
25	239202	Bearing Plate
26	03001500	Bearing 1" 2B Flange
27	01261700	Carriage 5/16 x 1½"
28	330845	Lock Washer 5/16"
29	330811	Hex Nut 5/16"
30	403758	U-Joint 1" Square-1" Round
31	313072	Drive Shaft 4" Male
32	973990	U-Joint Drive Shaft Female
33	330662	Roll Pin 5/16 x 1 3/4
34	02440600	HHCS 5/16 x 2 1/4
35	434423	Chain #50 x 85 Pitch
36	433870	Chain Connector #50
37	334938	HHCS 1" x 7"
38	330399	Lock Washer 1"
39	330381	Hex Nut 1"
40	878637	Gear Box Assembly Right
41	878249	Gear Box Assembly Left
42	338962	U-Bolt ½ x 7 x 8
43	330159	Flat Washer ½"
44	330142	Lock Washer ½"
45	330134	Hex Nut ½"
46	313296	Hex Shaft 7/8 x 122"
47	974535	Sprocket #50-18T -7/8" Hex
48	82581000	Sprocket #50-18T -1" Hub
49	974030	Sprocket #40-48T-1" Hub
50	338392	Klik Pin 1/4 w/1 3/4 Ring
51	335323	Carriage Bolt ½" x 3'
52	973008	Sprocket #40-18T-1" Hub
53	434365	Chain #40 x 105 Pitch
54	434084	Chain Connector #40
55	865733	Drive Bracket w/Bearing
56	01147800	HHCS ½" x 1½"
57	313064	Shaft 1 x 9½"
58	403436	Flangette 3 Bolt
59	403444	Hex Bearing 7/8"
60	639781	Sprocket Hub 7/8 Hex
61	334516	Set Screw 1/4-28 x 1/4
62	01225200	HHCS ½" x 5"

6000 Opener Assemblies



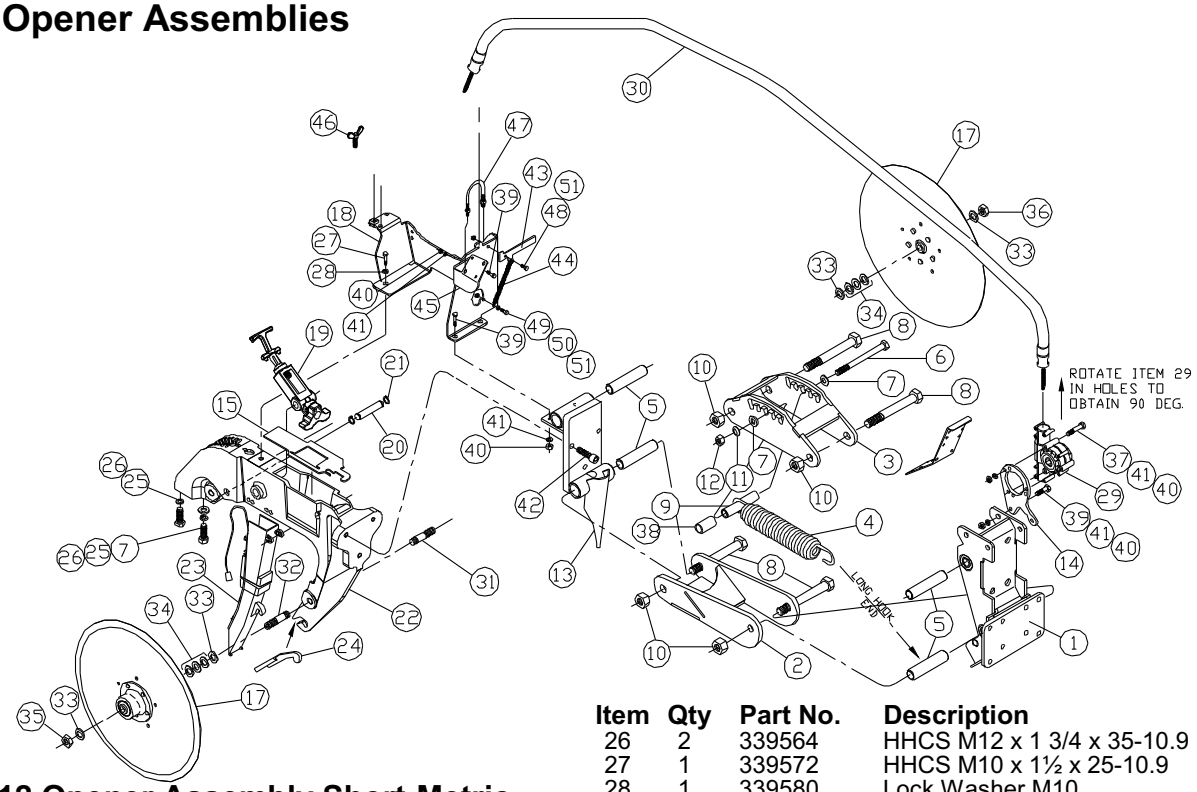
#881904 Opener Assembly Long-Metric

Item	Qty	Part No.	Description
1	1	976290	Mount Assembly
2	1	964726	Lower Arm
3	1	964718	Upper Arm
4	1	502294	Extension Spring
5	4	152561	Arm Bushing
6	1	337972	HHCS ½" x 6" Grade 8
7	3	330159	Flat Washer ½"
8	4	334466	HHCS 3/4" x 6"
9	1	152611	Spring Bushing
10	4	01015700	Center Lock Nut 3/4"
11	1	502302	Curved Spring Washer
12	1	03223500	Reversible Lock Nut ½" Grade 8
13	1	979955	Mount Attachment
14	1	236802	Flex Gearbox Mount Plate
15	1	611657	Opener Mouth Cover
16	1	971481	Nose Shield Guard
17	2	875971	Blade 16" w/#20 Edge
18	1	641548	Meter Mounting Bracket
19	1	876789	Depth Adjustment
20	1	313031	Depth Adjustment Pin
21	2	610667	Retaining Ring 5/8" Ext.
22	1	979948	Cast Opener w/plugs-Metric
23	1	878124	Seed Tube w/Sensor
24	1	972695	Scraper w/ Serial # < 28394
	1	33131400	Scraper w/ Serial # > 28394
25	2	330142	Lock Washer ½"
26	2	339564	HHCS M12 x 1 3/4 x 35-10.9
27	1	339572	HHCS M10 x 1½ x 25-10.9
28	1	339580	Lock Washer M10
29	1	611673	Flex Drive Gearbox
30	1	611699	Flex Drive Assembly Long
31	1	312561	Blade Pin left hand thread
32	1	312579	Blade Pin right hand thread
33	4	330720	Machine Bushing 14ga x 5/8" x 1 1/8"
34	6	333351	Machine Bushing 18ga x 5/8" x 1 1/8"
35	1	331538	Hex Jam Nut 5/8"
36	1	338715	Hex Jam Nut 5/8" left hand
37	3	331710	HHCS 5/16 x 2½"
38	2	155739	Spring Centering Bushing
39	8	01010800	HHCS 5/16 x 1"
40	11	330811	Hex Nut 5/16"
41	11	330845	Lock Washer 5/16"
42	3	339556	Screw M14 x 2 x 45-12.9 Socket Head
43	1	236885	Cover Spring latch/release
44	1	04047700	Spring
45	1	270777	Vacuum Hose Mount
46	1	339341	Thumb Screw 5/16 x 1 Wing
47	3	338665	U-bolt 1/4" x 1 3/4" x 3"
48	1	01057900	HHCS 1/4" x 3/4"
49	1	331835	HHCS 1/4" x 1"
50	2	330522	Nylock 1/4"
51	1	332205	Hex Nut 1/4"

#878124 -Seed Tube w/Sensor

Item	Qty	Part No.	Description
1	1	608554	Hi-Rate Seed Sensor
2	1	572081	Seed Tube

6000 Opener Assemblies

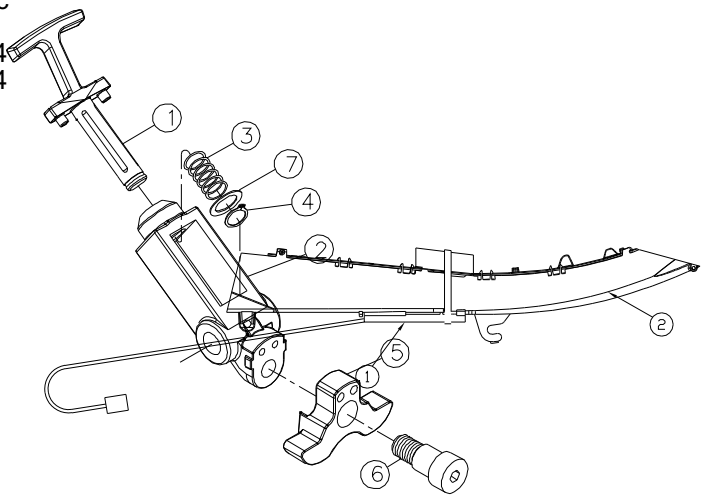


#881912 Opener Assembly Short-Metric

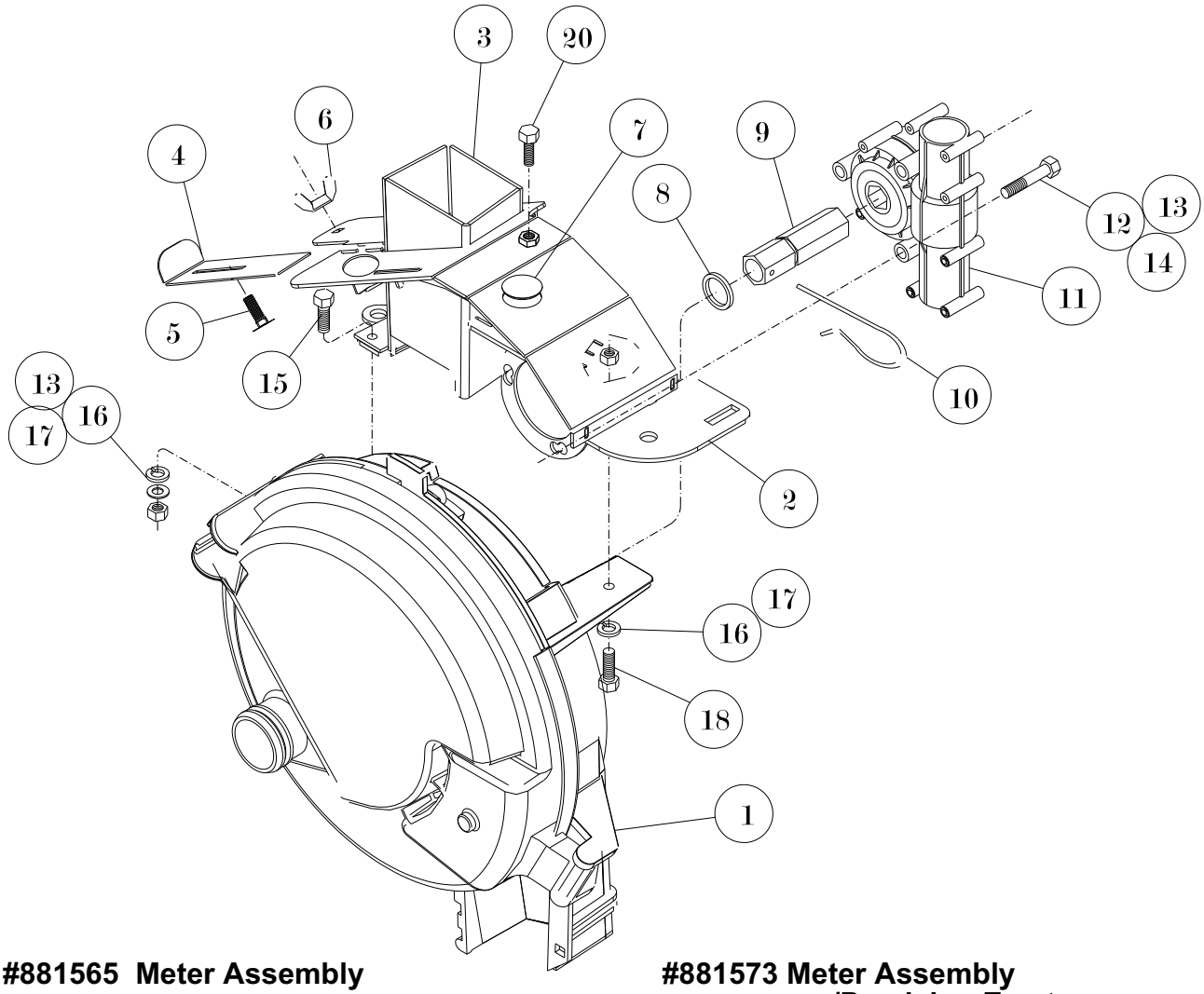
Item	Qty	Part No.	Description
1	1	976290	Mount Assembly
2	1	964726	Lower Arm
3	1	964718	Upper Arm
4	1	502294	Extension Spring
5	4	152561	Arm Bushing
6	1	337972	HHCS ½" x 6" Grade 8
7	2	330159	Flat Washer ½"
8	4	334466	HHCS 3/4" x 6"
9	1	152611	Spring Bushing
10	4	01015700	Center Lock Nut 3/4"
11	1	502302	Curved Spring Washer
12	1	03223500	Reversible Lock Nut ½" Gr 8
13	1	979963	Mount Attachment Short-Metric
14	1	236802	Flex Gearbox Mount Plate
15	1	611657	Opener Mouth Cover
16			
17	2	875971	Blade 16" w/#20 Edge
18	1	641548	Meter Mounting Bracket
19	1	876789	Depth Adjustment
20	1	313031	Depth Adjustment Pin
21	2	610667	Retaining Ring 5/8" Ext.
22	1	979948	Cast Opener w/plugs-Metric
23	1	878124	Seed Tube w/Sensor
24	1	972695	Scraper w/ Serial # < 28394
	1	33131400	Scraper w/ Serial # > 28394
25	2	330142	Lock Washer ½"
26	2	339564	HHCS M12 x 1 3/4 x 35-10.9
27	1	339572	HHCS M10 x 1½ x 25-10.9
28	1	339580	Lock Washer M10
29	1	611673	Flex Drive Gearbox
30	1	611681	Flex Drive Assembly Short
31	1	312561	Blade Pin left hand thread
32	1	312579	Blade Pin right hand thread
33	4	330720	Machine Bushing 14ga x 5/8" x 1 1/8"
34	6	333351	Machine Bushing 18ga x 5/8" x 1 1/8"
35	1	331538	Hex Jam Nut 5/8"
36	1	338715	Hex Jam Nut 5/8" left hand
37	3	331710	HHCS 5/16" x 2½"
38	2	155739	Spring Centering Bushing
39	6	01010800	HHCS 5/16 x 1"
40	9	330811	Hex Nut 5/16"
41	9	330845	Lock Washer 5/16"
42	3	339556	Screw M14 x 2 x 45-12.9 Socket Hd
43	1	236885	Cover Spring latch/release
44	1	04047700	Spring
45	1	270777	Vacuum Hose Mount
46	1	339341	Thumb Screw 5/16 x 1 Win
47	3	338665	U-bolt 1/4" x 1 3/4" x 3"
48	1	01057900	HHCS 1/4" x 3/4"
49	1	331835	HHCS 1/4" x 1"
50	2	330522	Nylock 1/4"
51	1	332205	Hex Nut 1/4"

#876789 -Depth Adjustment Assembly

Item	Qty	Part No.	Description
1	1	571752	Adjustment Handle
2	1	572180	Adjustment Lever
3	1	502658	Spring
4	3	610667	Retaining Ring 5/8" Ext
5	1	571745	Adjustment Rocker
6	1	338731	Screw 3/4" x 3/4" x 5/8" Shoulder
7	1	272781	Washer 20 ga



Meter Assemblies -Stainless Steel



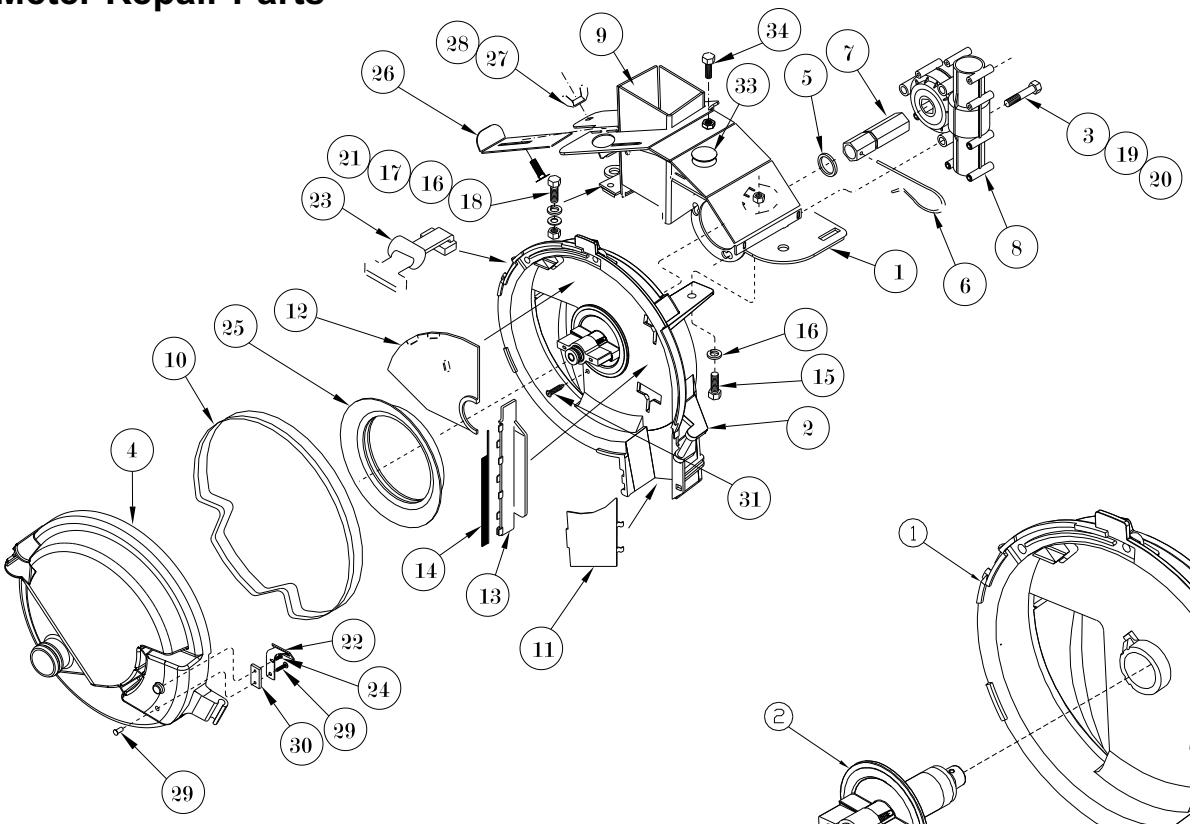
#881565 Meter Assembly

Item	Qty	Part No.	Description
1	1	571760	Vacuum Meter Assembly
2	1	977603	Meter Cover
3	1	977611	Hose Mount
4	1	277848	Cut Off Gate
5	1	337949	Carriage Bolt 1/4" x 3/4"
6	1	338103	Wing Nut 1/4"
7	2	614750	Plastic Plug
8	1	613547	O-Ring 11/16 x 7/8 x 3/32
9	1	313015	Gearbox Hex Insert
10	1	502518	Meter Pin Spring Lock
11	1	611673	Flex Drive Gearbox
12	2	331710	HHCS 5/16" x 2½"
13	2	331611	Nylock 5/16"
14	2	330852	Flat Washer 5/16"
15	1	01011600	HHCS 5/16" x 1 1/4"
16	2	330845	Lock Washer 5/16"
17	2	330811	Hex Nut 5/16"
18	1	01144500	HHCS 5/16" x 3/4"
	*	611855	Brush -Short
	*	611830	Brush -Long
20	1	01210400	HHCS 5/16" x 1" SS

#881573 Meter Assembly w/Precision E-set

Item	Qty	Part No.	Description
1	1	571760	Vacuum Meter Assembly
2	1	977603	Meter Cover
3	1	977611	Hose Mount
4	1	277848	Cut Off Gate
5	1	337949	Carriage Bolt 1/4" x 3/4"
6	1	338103	Wing Nut 1/4"
7	2	614750	Plastic Plug
8	1	613547	O-Ring 11/16 x 7/8 x 3/32
9	1	313015	Gearbox Hex Insert
10	1	502518	Meter Pin Spring Lock
11	1	611673	Flex Drive Gearbox
12	2	331710	HHCS 5/16" x 2½"
13	2	331611	Nylock 5/16"
14	2	330852	Flat Washer 5/16"
15	1	01011600	HHCS 5/16" x 1 1/4"
16	2	330845	Lock Washer 5/16"
17	2	330811	Hex Nut 5/16"
18	1	01144500	HHCS 5/16" x 3/4"
	*	613471	Precision E-set Kit
	*	616144	Brush Long
	*	616151	Brush Short
20	1	01210400	HHCS 5/16" x 1" SS

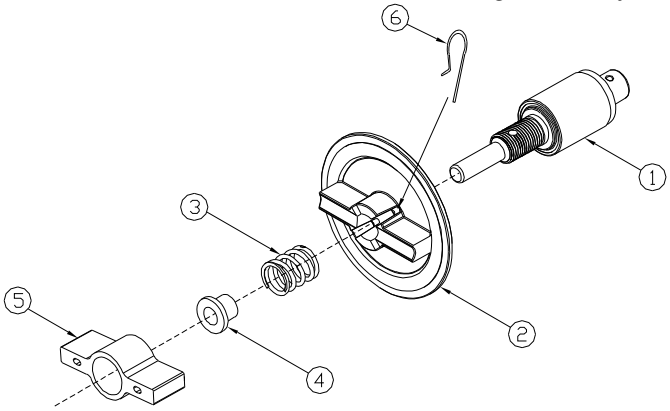
Meter Repair Parts



Item	Qty	Part No.	Description
1	1	977603	Meter Cover
2	1	641506	Aluminum Housing Meter Bearing Assembly
3	2	331710	HHCS 5/16" x 2½"
4	1	571836	Plastic Meter Housing
5	1	613547	O-Ring 11/16 x 7/8 x 3/32
6	1	502518	Meter Pin Spring Lock
7	1	313015	Gearbox Hex Insert
8	1	611673	Flex Drive Gearbox
9	1	977611	Hose Mount
10	1	611780	Rubber Seal
11	1	271965	Seed Drop Cover
12	1	611814	Isolator
13	1	611822	Insert
14	1	611855	Brush -Short
	1	611830	Brush -Long
15	1	01144500	HHCS 5/16" x 3/4"
16	2	330845	Lock Washer 5/16"
17	1	330811	Hex Nut 5/16"
18	1	01011600	HHCS 5/16" x 1 1/4"
19	2	331611	Nylock 5/16"
20	2	02016400	Flat Washer 1/4"
21	2	330852	Flat Washer 5/16"
22	1	611806	Scraper
23	1	611798	Latch
24	1	338988	Screw M3 x 12
25	1	611863	Bearing Seal
26	1	277848	Cut Off Gate
27	1	337949	Carriage Bolt 1/4" x 3/4"
28	1	338103	Wing Nut 1/4"
29	1	338970	Screw 1/4" -Binding Post
30	1	572172	Nylon Spacer
31	1	337881	Screw #10-16 x ½" Pan Head Self Drive-Tap
33	2	614750	Plastic Plug
34	1	01210400	HHCS 5/16" x 1" SS

#641506 - Aluminum Housing w/Bearing Assembly

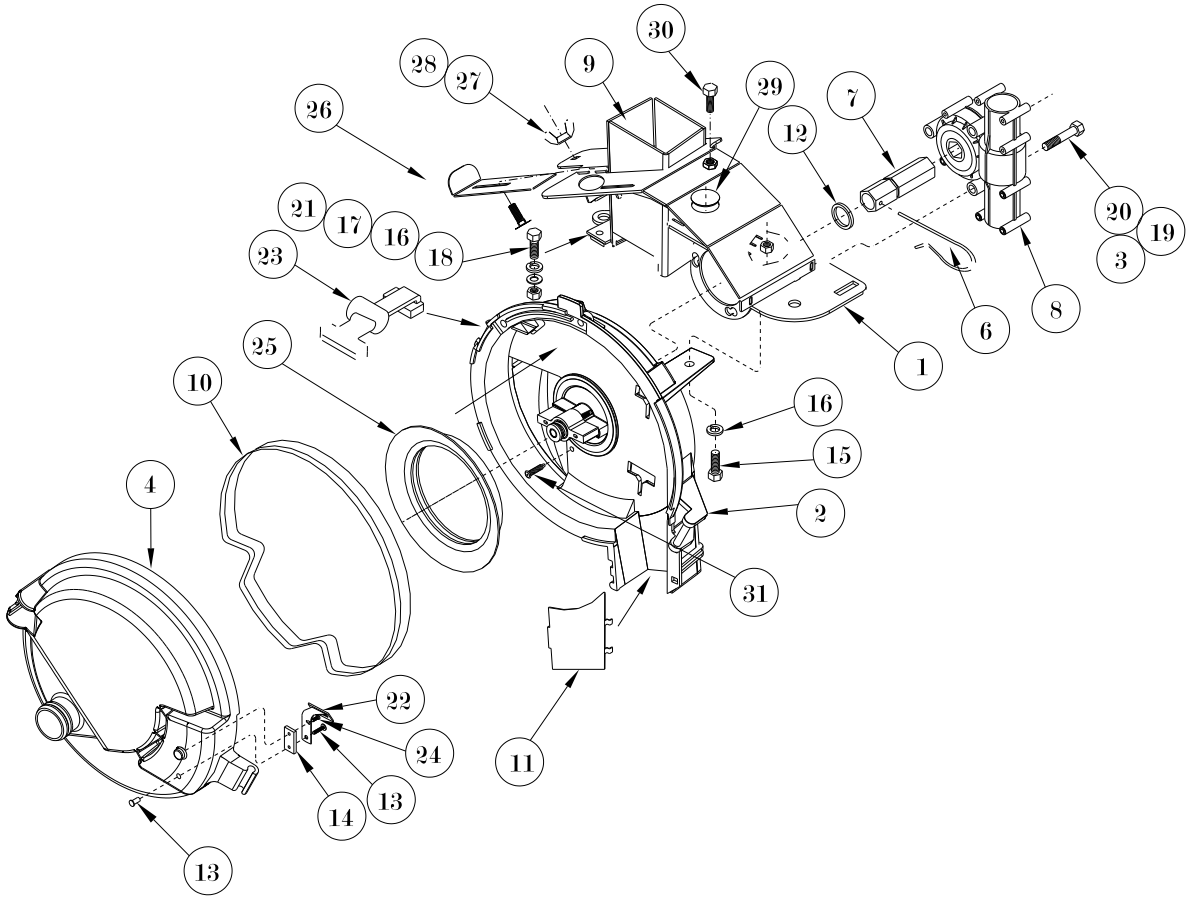
Item	Qty	Part No.	Description
1	1	551416	Aluminum Housing
2	1	641498	Meter Bearing Assembly



#641498 - Meter Bearing Assembly

Item	Qty	Part No.	Description
1	1	403709	Bearing
2	1	551408	Hub
3	1	502534	Compression Spring
4	1	610741	Bushing
5	1	571828	Handle
6	1	502518	Meter Pin Spring Lock

Precision Meter Repair Parts



Item	Qty	Part No.	Description
1	1	977603	Meter Cover
2	1	641506	Aluminum Housing Meter Bearing Assembly
3	2	331710	HHCS 5/16" x 2½"
4	1	571836	Plastic Meter Housing
5	1	613471	E-set Kit Precision
6	1	502518	Meter Pin Spring Lock
7	1	313015	Gearbox Hex Insert
8	1	611673	Flex Drive Gearbox
9	1	977611	Hose Mount
10	1	611780	Rubber Seal
11	1	271965	Seed Drop Cover
12	1	613547	O-Ring 11/16 x 7/8 x 3/32
13	1	338970	Screw 1/4 Binding Post
14	1	572172	Nylon Spacer 1/4" x 1 x 2
15	1	01144500	HHCS 5/16" x 3/4"
16	2	330845	Lock Washer 5/16"
17	1	330811	Hex Nut 5/16"
18	1	01011600	HHCS 5/16" x 1 1/4"
19	2	331611	Nylock 5/16"
20	2	02016400	Flat Washer 1/4"
21	2	330852	Flat Washer 5/16"
22	1	611806	Scraper
23	1	611798	Latch
24	1	338988	Screw M3 x 12
25	1	611863	Bearing Seal
26	1	277848	Cut Off Gate
27	1	337949	Carriage Bolt 1/4" x 3/4"
28	1	338103	Wing Nut 1/4"
	*	616144	Brush Long
	*	616151	Brush Short
29	2	614750	Plastic Plug
30	1	01210400	HHCS 5/16" x 1" SS

Meter Assembly Parts

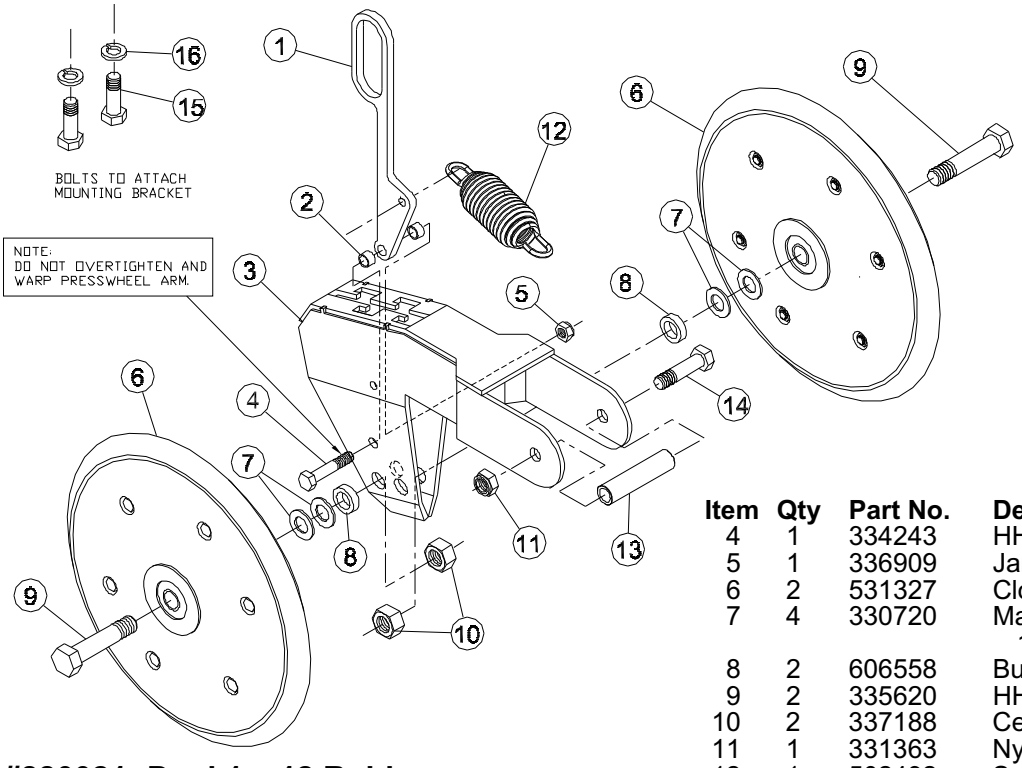
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Beans, Edible	Seed Plate	56 Cells medium	612051	A51696
Beans, Edible	Seed Plate	108 Cells small	612069	H136468
Beans, Edible	Seed Plate	50 Cells large	641456	H136092
Corn	Seed Plate	30 Cells Standard corn	611970	A50617
Corn	Seed Plate	30 Cells Small corn	611988	A43215
Corn	Seed Plate	Large for South Africa -25 Cells	612168	A63160
Cotton	Seed Plate	64 Cells 2-seed Hill-drop cotton	612192	AA58507
Cotton	Seed Plate	48 Cells 4-seed Hill-drop cotton	612044	A65622
Cotton	Seed Plate	64 Cells Acid-delinted	612002	A56251
Peanuts	Seed Plate	50 Cells Runner and Spanish	641456	H136092
Peanuts	Seed Plate	46 Cells Virginia peanuts	612077	H138722
Sorghum	Seed Plate	45 Cells	612176	A43066
Sorghum	Seed Plate	90 Cells High Rate	612127	A52802
Soybean	Seed Plate	108 Cells	611996	A42586
Soybean	Seed Plate	64 Cells	612002	A56251
Sugar Beets	Seed Plate	45 Cells Small	612119	A51712
Sugar Beets	Seed Plate	45 Cells Small and Medium	612010	H136445
Sugar Beets	Seed Plate	45 Cells Large	612028	A51713
Sunflower	Seed Plate	30 Cells Small, Medium, Large	612036	H136478
Beans, Edible	Flat Type Disc	Small Edible Beans -50 Cells	612143	A52903
Beans, Edible	Flat Type Disc	Medium Edible Beans -50 Cells	612150	A52904
Beans, Edible	Flat Type Disc	Large Edible Beans -50 Cells	612135	A52878
Blank Seed	Flat Type Disc	40 Cells Blank Disc	612101	A52554
Corn	Flat Type Disc	40 Cells Small Sweet Corn	612085	A52390
Corn	Flat Type Disc	Promax 40 -40 Cells	612093	A52391
Soybeans	Flat Type Disc	36 Cells Low Rate Soybeans	612184	AA55023
Beans, Edible	Knocker Assembly-knocker, arm, spring, support & pin		611905	AA38844
Corn, Sweet	Knocker Assembly-knocker, arm, spring, support & pin		612358	AA37348
Soybeans	Knocker Assembly-knocker, arm, spring, support & pin		612341	AH129125
Sugar Beets	Knocker Assembly-knocker, arm, spring, support & pin		612341	AH129125

Part Name	Description	CrustBuster Part #	John Deere Part #
Strap Kit	Includes cam, adjusting strap, dual lock fastener, screw and cover	611913	AA61046
Knocker	Edible Beans- includes knocker, arm, spring, support & pin	611905	AA38844
Knocker	Sweet Corn- includes knocker, arm, spring, support & pin	612358	AA37348
Knocker	Sugar Beets & Sorghum - includes knocker, arm, spring, support & pin	612341	AH129125
Rebounder	Steadies seed tube and puts seed in bottom of furrow	614636	OJDN

Precision Parts

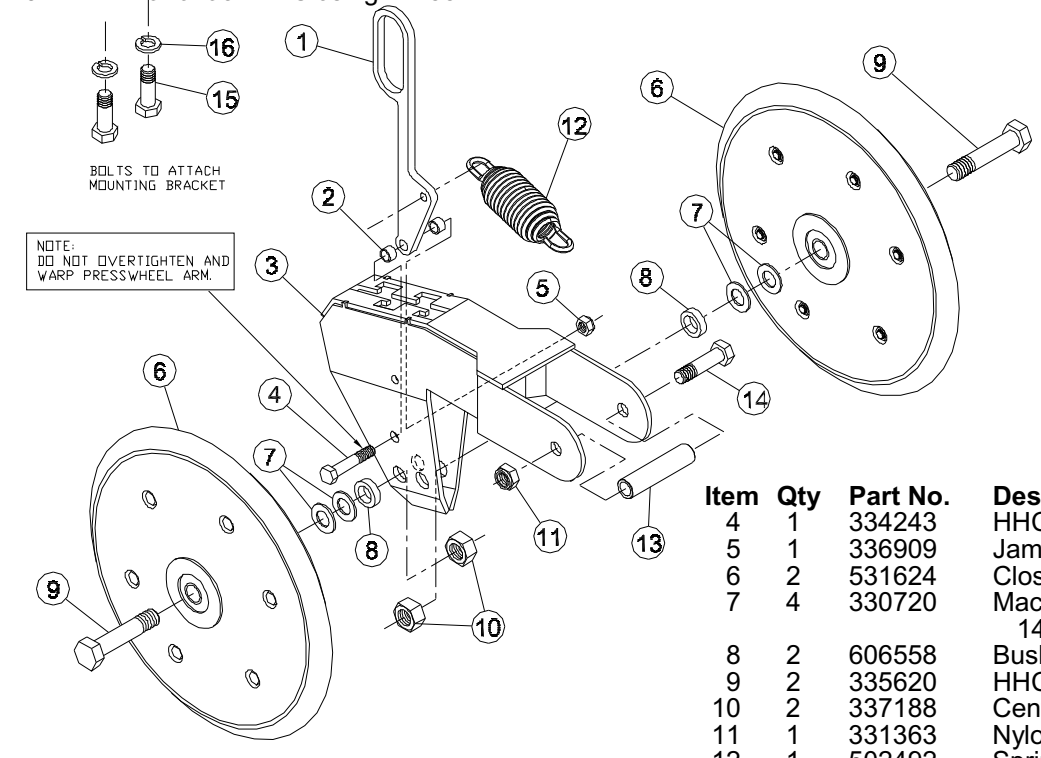
Crop	Description		CrustBuster Part #	Precision Part #
Corn, Field	Disk, e-set	30 Cells	612507	720003
Soybeans	Disk, e-set	60 Cells	612515	720265-1
Cotton	Disk, e-set		612523	720285

Closing Wheels



#880021 -Dual 1 x 12 Rubber

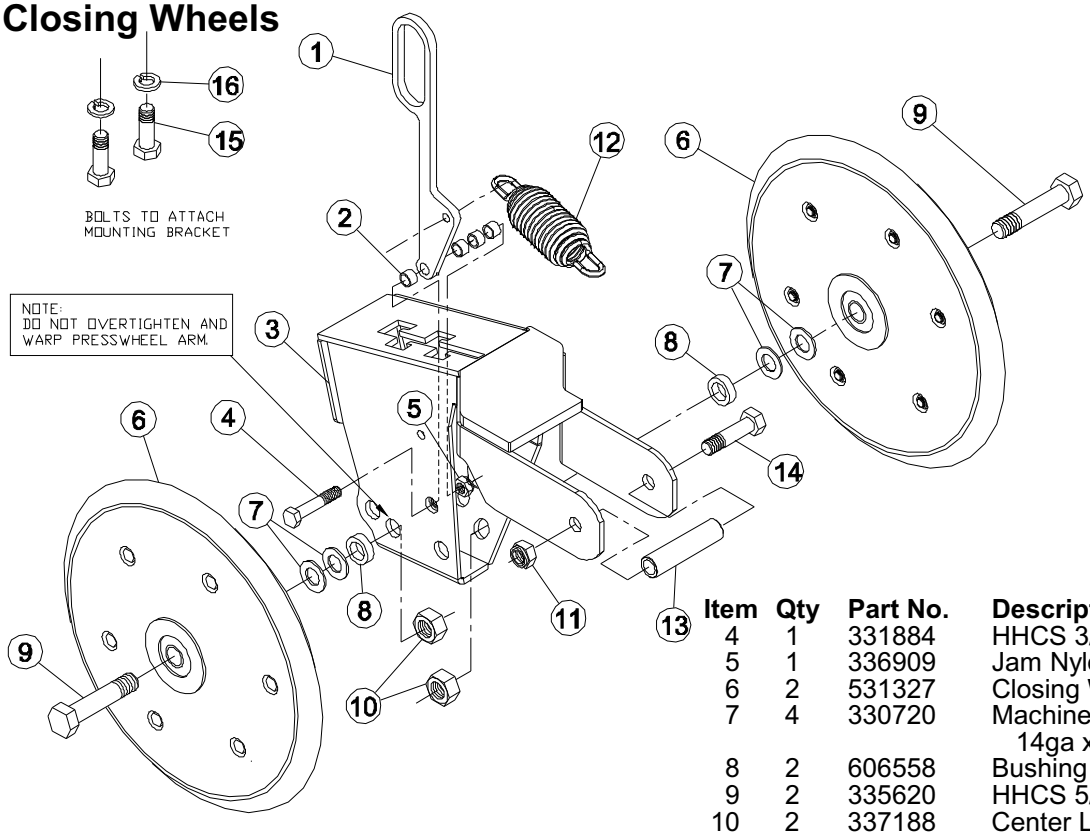
Item	Qty	Part No.	Description
1	1	233569	Adjustment Handle
2	2	149393	Bushing 3/8" x ½" x 5/16"
3	1	976795	Closing Wheel Arm
4	1	334243	HHCS 3/8" x 2"
5	1	336909	Jam Nylock 3/8"
6	2	531327	Closing Wheel 1x2 Rubber
7	4	330720	Machine Bushing 14ga x 5/8" x 1 1/8"
8	2	606558	Bushing .657 x 1 x .281
9	2	335620	HHCS 5/8" x 3"
10	2	337188	Center Lock Nut 5/8"
11	1	331363	Nylock ½"
12	1	502492	Spring .243 x 1.937 x 6½
13	1	149286	Bushing .747 x.532 x 3.094
14	1	330100	HHCS ½" x 4½"
15	2	01180900	HHCS ½" x 1 1/4"
18	2	330142	Lock Washer ½"



#880039 -Dual 1 x 12 Cast

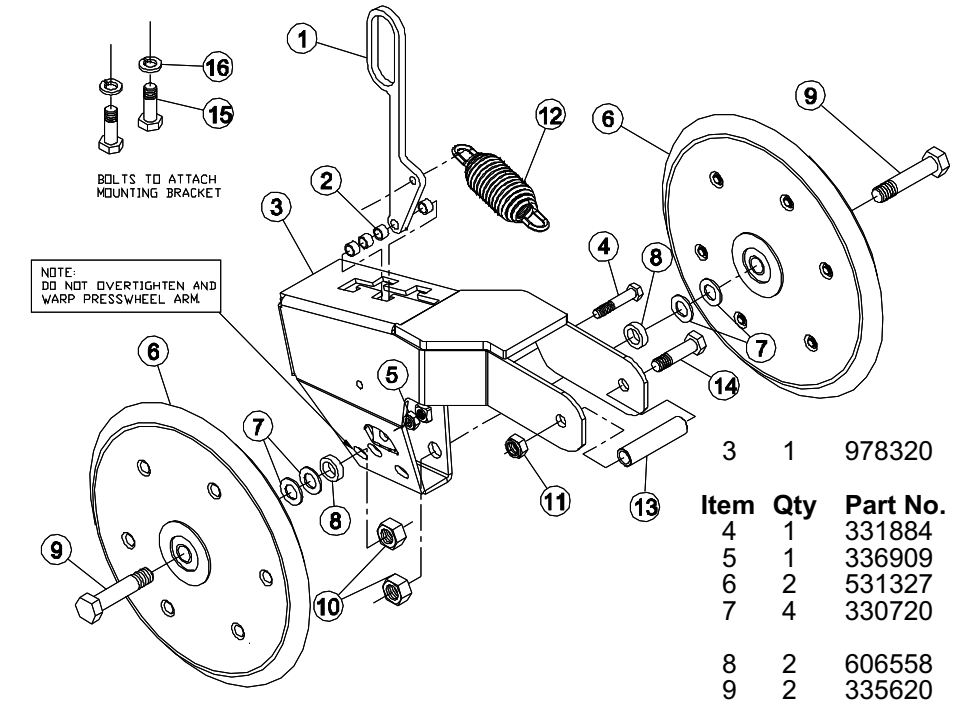
Item	Qty	Part No.	Description
1	1	233569	Adjustment Handle
2	2	149393	Bushing 3/8" x ½" x 5/16"
3	1	976795	Closing Wheel Arm
4	1	334243	HHCS 3/8" x 2"
5	1	336909	Jam Nylock 3/8"
6	2	531624	Closing Wheel 1x2 Cast
7	4	330720	Machine Bushing 14ga x 5/8" x 1 1/8"
8	2	606558	Bushing .657 x 1 x .281
9	2	335620	HHCS 5/8" x 3"
10	2	337188	Center Lock Nut 5/8"
11	1	331363	Nylock ½"
12	1	502492	Spring .243 x 1.937 x 6½
13	1	149286	Bushing .747 x.532 x 3.094
14	1	330100	HHCS ½" x 4½"
15	2	01180900	HHCS ½" x 1 1/4"
18	2	330142	Lock Washer ½"

Closing Wheels



#881037 -Dual 1 x 12 Rubber Offset-Left

Item	Qty	Part No.	Description
1	1	233569	Adjustment Handle
2	4	149393	Bushing 3/8" x ½" x 5/16"
3	1	978312	Closing Wheel Arm Left
4	1	331884	HHCS 3/8" x 2½"
5	1	336909	Jam Nylock 3/8"
6	2	531327	Closing Wheel 1x2 Rubber
7	4	330720	Machine Bushing 14ga x 5/8" x 1 1/8"
8	2	606558	Bushing .657 x 1 x .281
9	2	335620	HHCS 5/8" x 3"
10	2	337188	Center Lock Nut 5/8"
11	1	331363	Nylock ½"
12	1	502492	Spring .243 x 1.937 x 6½
13	1	149286	Bushing .747 x.532 x 3.094
14	1	330100	HHCS ½" x 4½"
15	2	01180900	HHCS ½" x 1 1/4"
18	2	330142	Lock Washer ½"



#881045 -Dual 1 x 12 Rubber Offset-Right

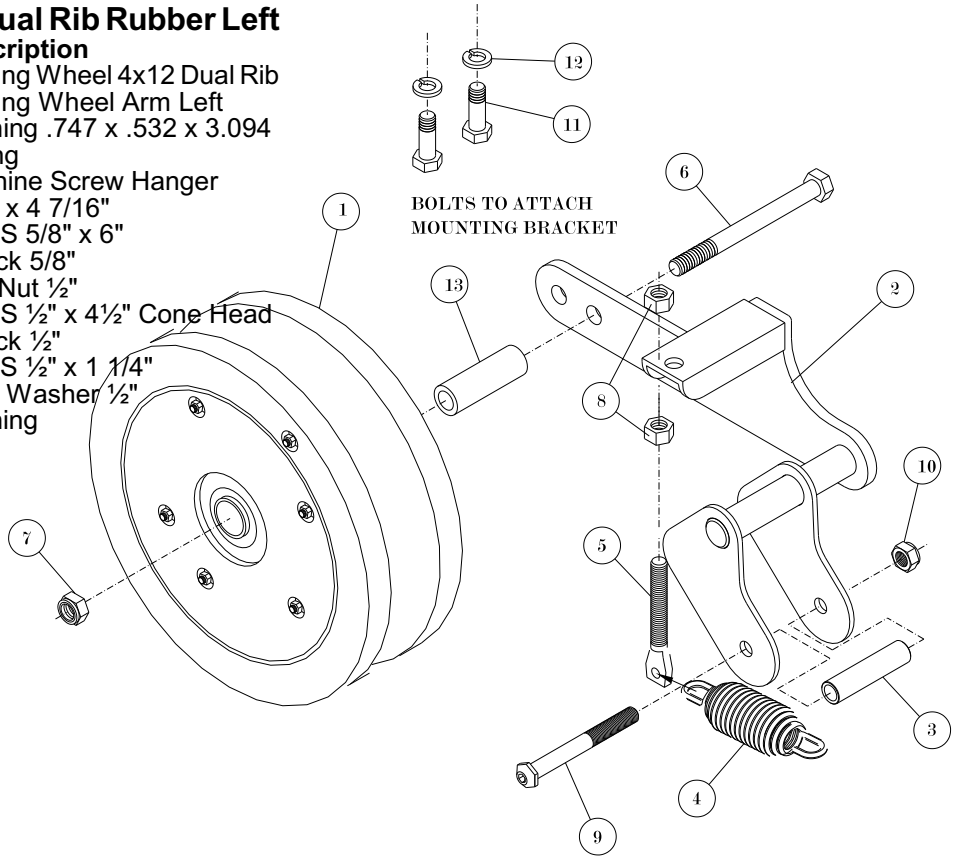
Item	Qty	Part No.	Description
1	1	233569	Adjustment Handle
2	4	149393	Bushing 3/8" x ½" x 5/16"
3	1	978320	Closing Wheel Arm Right
4	1	331884	HHCS 3/8" x 2½"
5	1	336909	Jam Nylock 3/8"
6	2	531327	Closing Wheel 1x2 Rubber
7	4	330720	Machine Bushing 14ga x 5/8" x 1 1/8"
8	2	606558	Bushing .657 x 1 x .281
9	2	335620	HHCS 5/8" x 3"
10	2	337188	Center Lock Nut 5/8"
11	1	331363	Nylock ½"
12	1	502492	Spring .243 x 1.937 x 6½
13	1	149286	Bushing .747 x.532 x 3.094
14	1	330100	HHCS ½" x 4½"

15	2	01180900	HHCS ½" x 1 1/4"
18	2	330142	Lock Washer ½"

Closing Wheels

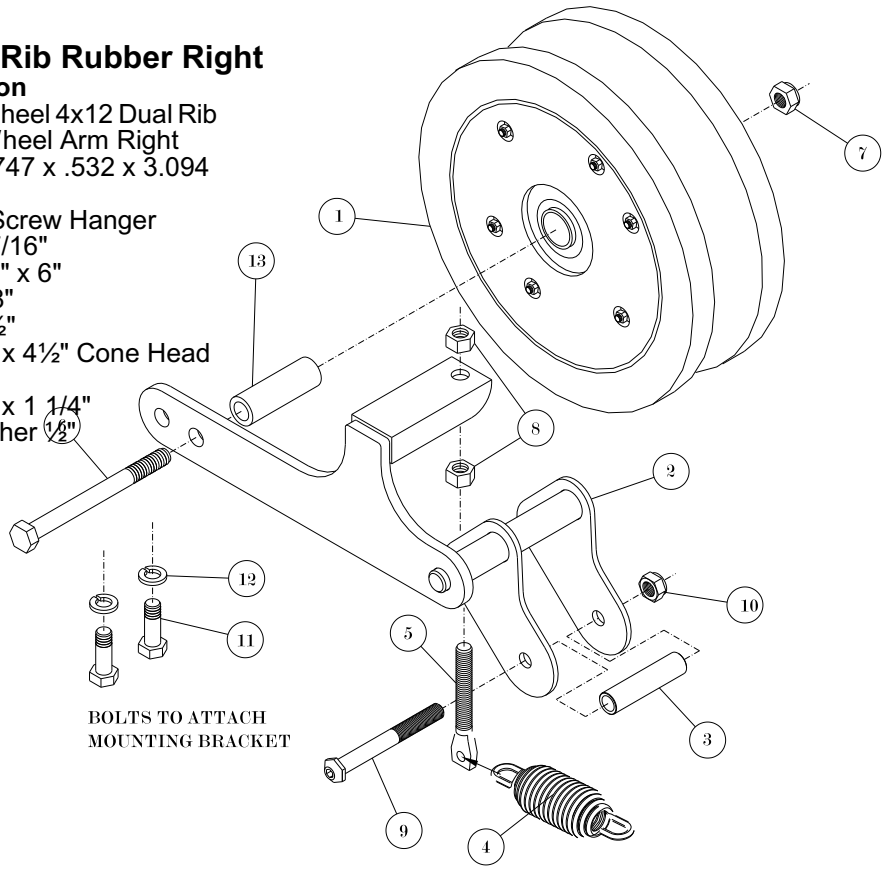
#878801 -Single 4x12 Dual Rib Rubber Left

Item	Qty	Part No.	Description
1	1	531665	Closing Wheel 4x12 Dual Rib
2	1	975433	Closing Wheel Arm Left
3	1	149286	Bushing .747 x .532 x 3.094
4	1	502492	Spring
5	1	339101	Machine Screw Hanger ½" x 4 7/16"
6	1	333625	HHCS 5/8" x 6"
7	1	01572700	Nylock 5/8"
8	2	330134	Hex Nut ½"
9	1	339358	HHCS ½" x 4½" Cone Head
10	1	331363	Nylock ½"
11	2	01180900	HHCS ½" x 1 1/4"
12	2	330142	Lock Washer ½"
13	2	156687	Bushing

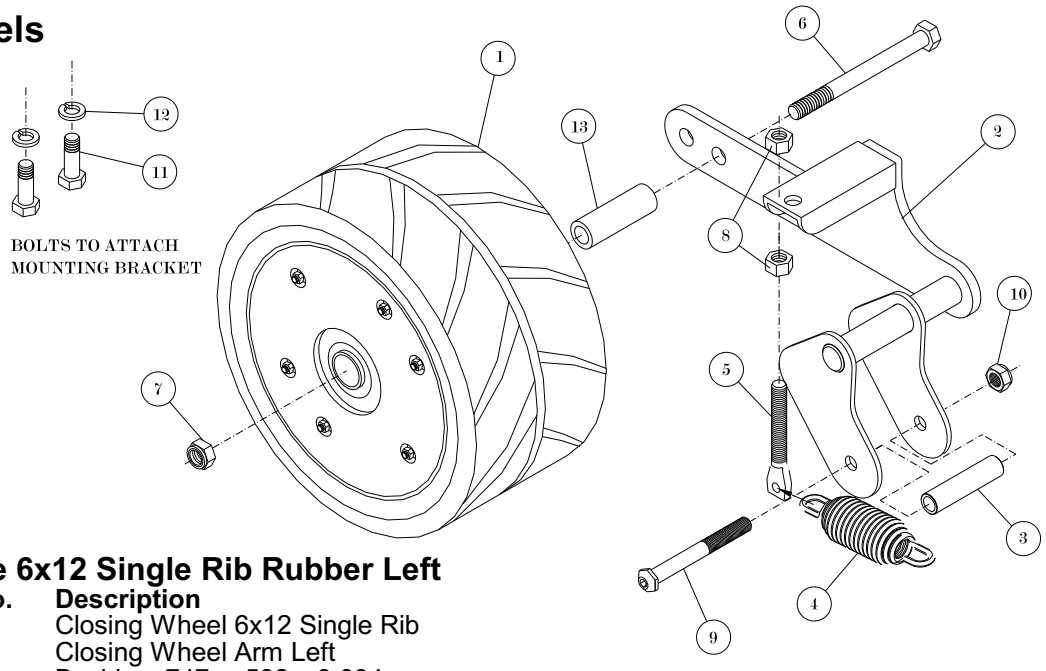


#878819 -Single 4x12 Dual Rib Rubber Right

Item	Qty	Part No.	Description
1	1	531665	Closing Wheel 4x12 Dual Rib
2	1	975441	Closing Wheel Arm Right
3	1	149286	Bushing .747 x .532 x 3.094
4	1	502492	Spring
5	1	339101	Machine Screw Hanger ½" x 4 7/16"
6	1	333625	HHCS 5/8" x 6"
7	1	01572700	Nylock 5/8"
8	2	330134	Hex Nut ½"
9	1	339358	HHCS ½" x 4½" Cone Head
10	1	331363	Nylock ½"
11	2	01180900	HHCS ½" x 1 1/4"
12	2	330142	Lock Washer ½"
13	2	156687	Bushing

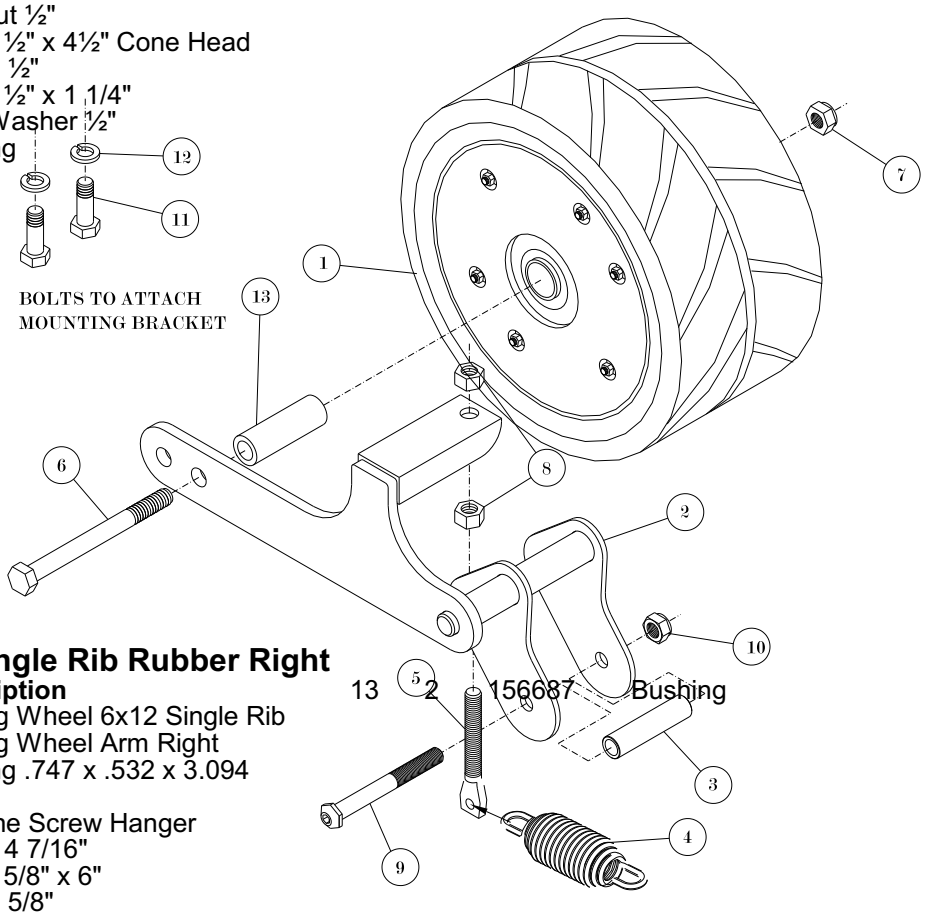


Closing Wheels



#880096 -Single 6x12 Single Rib Rubber Left

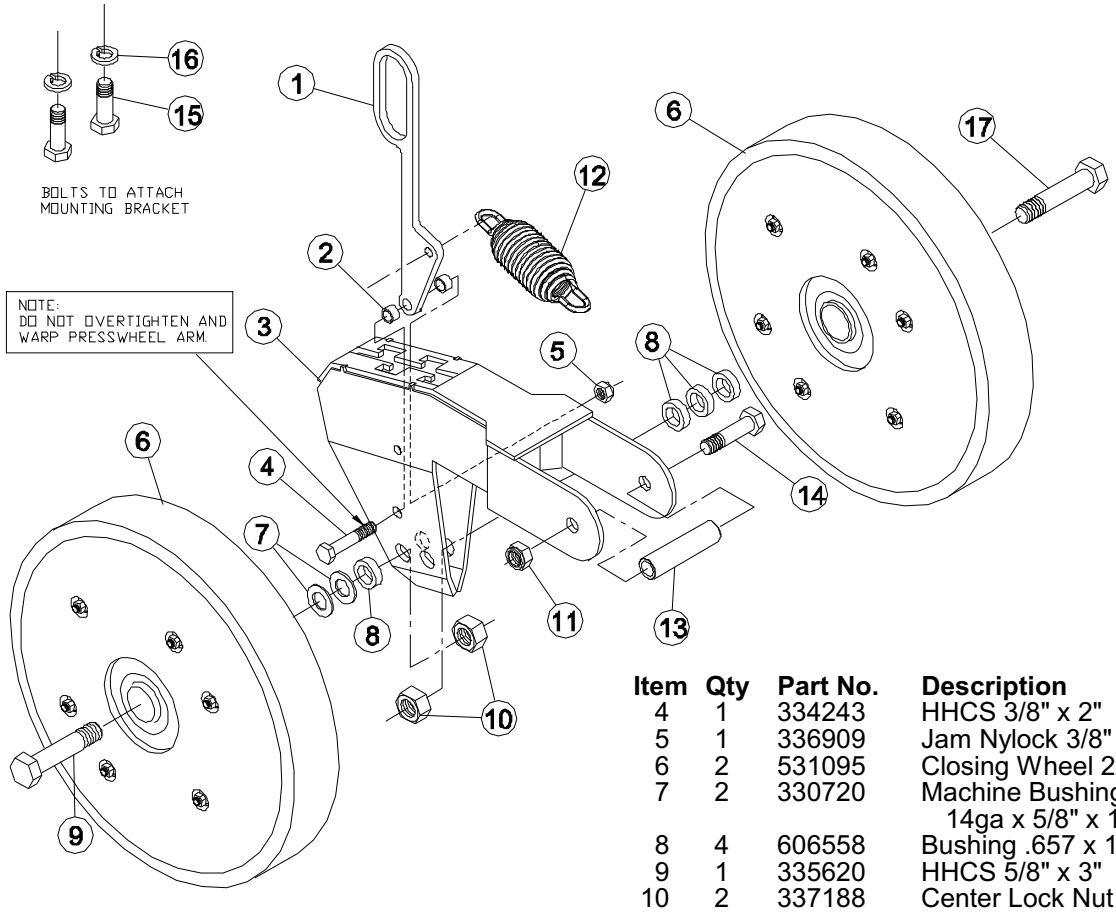
Item	Qty	Part No.	Description
1	1	531673	Closing Wheel 6x12 Single Rib
2	1	975433	Closing Wheel Arm Left
3	1	149286	Bushing .747 x .532 x 3.094
4	1	502492	Spring
5	1	339101	Machine Screw Hanger ½" x 4 7/16"
6	1	333625	HHCS 5/8" x 6"
7	1	01572700	Nylock 5/8"
8	2	330134	Hex Nut ½"
9	1	339358	HHCS ½" x 4½" Cone Head
10	1	331363	Nylock ½"
11	2	01180900	HHCS ½" x 1 1/4"
12	2	330142	Lock Washer ½"
13	2	156687	Bushing



#880104 -Single 6x12 Single Rib Rubber Right

Item	Qty	Part No.	Description
1	1	531673	Closing Wheel 6x12 Single Rib
2	1	975441	Closing Wheel Arm Right
3	1	149286	Bushing .747 x .532 x 3.094
4	1	502492	Spring
5	1	339101	Machine Screw Hanger ½" x 4 7/16"
6	1	333625	HHCS 5/8" x 6"
7	1	01572700	Nylock 5/8"
8	2	330134	Hex Nut ½"
9	1	339358	HHCS ½" x 4½" Cone Head
10	1	331363	Nylock ½"
11	2	01180900	HHCS ½" x 1 1/4"
12	2	330142	Lock Washer ½"
13	2	156687	Bushing

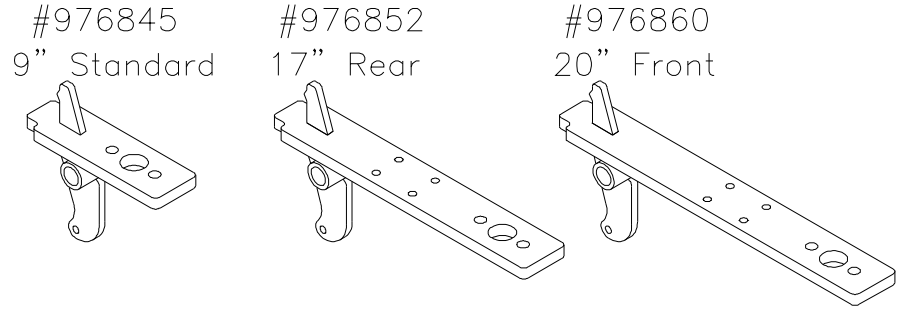
Closing Wheels



#880047 -Dual 2 x 13 Rubber

Item	Qty	Part No.	Description
1	1	233569	Adjustment Handle
2	2	149393	Bushing 3/8" x ½" x 5/16"
3	1	976795	Closing Wheel Arm
4	1	334243	HHCS 3/8" x 2"
5	1	336909	Jam Nylock 3/8"
6	2	531095	Closing Wheel 2x13 Rubber
7	2	330720	Machine Bushing 14ga x 5/8" x 1 1/8"
8	4	606558	Bushing .657 x 1 x .281
9	1	335620	HHCS 5/8" x 3"
10	2	337188	Center Lock Nut 5/8"
11	1	331363	Nylock ½"
12	1	502492	Spring .243 x 1.937 x 6½
13	1	149286	Bushing .747 x.532 x 3.094
14	1	330100	HHCS ½" x 4½"
15	2	01180900	HHCS ½" x 1 1/4"
16	2	330142	Lock Washer ½"
17	1	01116300	HHCS 5/8" X 3½"

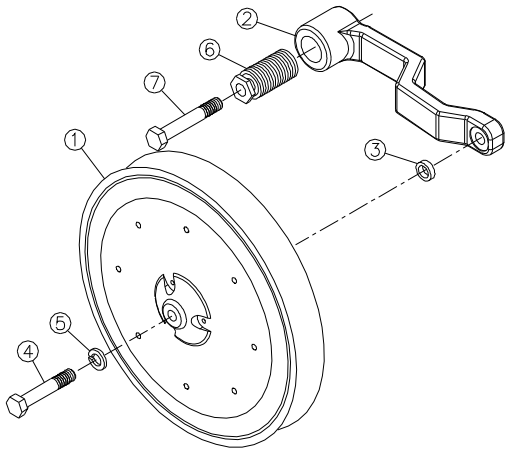
Arm Extenders



Gauge Wheels

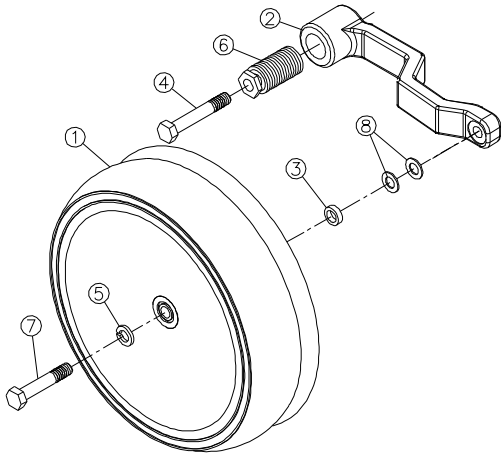
#879999 -2½" x 16"

Item	Qty	Part No.	Description
1	1	572073	Gauge Wheel 2½" x 16"
1	1	571729	Gauge Wheel Arm
3	1	611749	Bushing .657 x 1 x .645
4	1	335620	HHCS 5/8" x 3"
5	1	330878	Lock Washer 5/8"
6	1	312470	Gauge Wheel Adjustor
7	1	01116300	HHCS 5/8" x 3½"



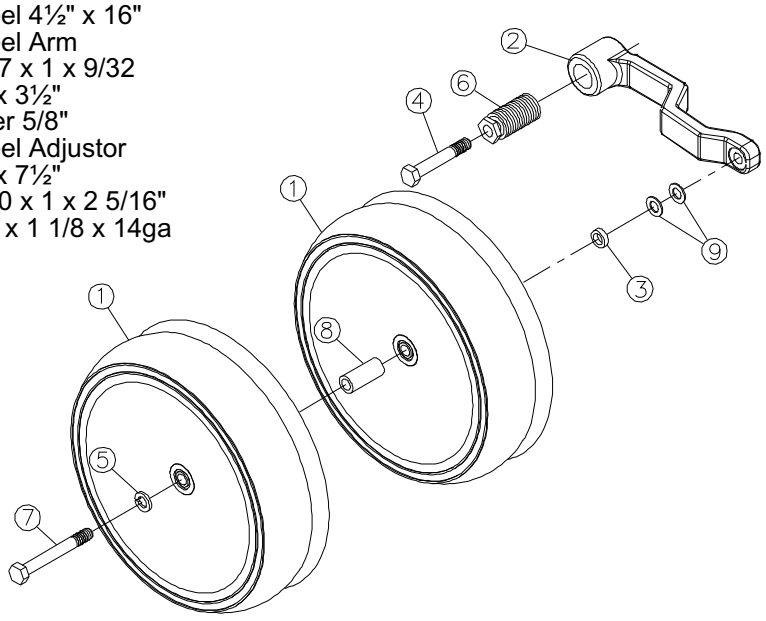
#880005 -4½" x 16"

Item	Qty	Part No.	Description
1	1	502427	Gauge Wheel 4½" x 16"
2	1	571729	Gauge Wheel Arm
3	1	606558	Bushing .657 x 1 x 9/32
4	1	01116300	HHCS 5/8" x 3½"
5	1	330878	Lock Washer 5/8"
6	1	312470	Gauge Wheel Adjustor
7	1	331983	HHCS 5/8" x 4"
8	2	330720	Bushing 5/8 x 1 1/8 x 14 ga

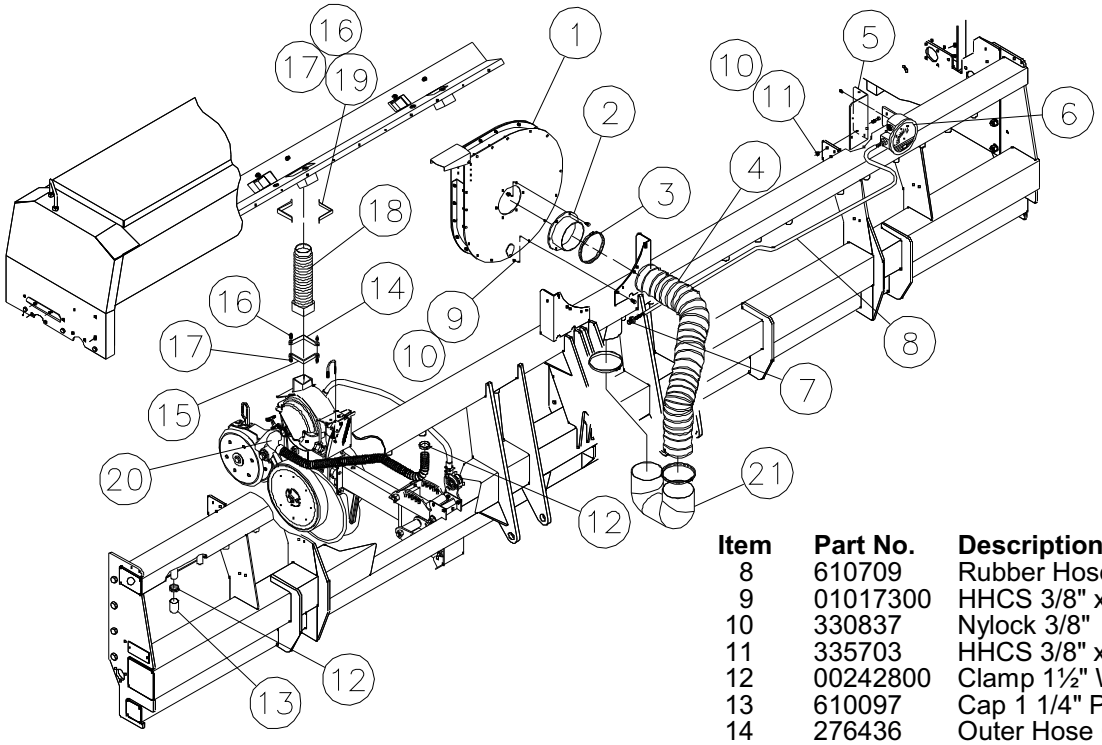


#880013 -4½" x 16" Double

Item	Qty	Part No.	Description
1	2	502427	Gauge Wheel 4½" x 16"
2	1	571729	Gauge Wheel Arm
3	1	606558	Bushing .657 x 1 x 9/32
4	1	01116300	HHCS 5/8" x 3½"
5	1	330878	Lock Washer 5/8"
6	1	312470	Gauge Wheel Adjustor
7	1	333146	HHCS 5/8" x 7½"
8	1	157370	Bushing .640 x 1 x 2 5/16"
9	2	330720	Bushing 5/8 x 1 1/8 x 14ga



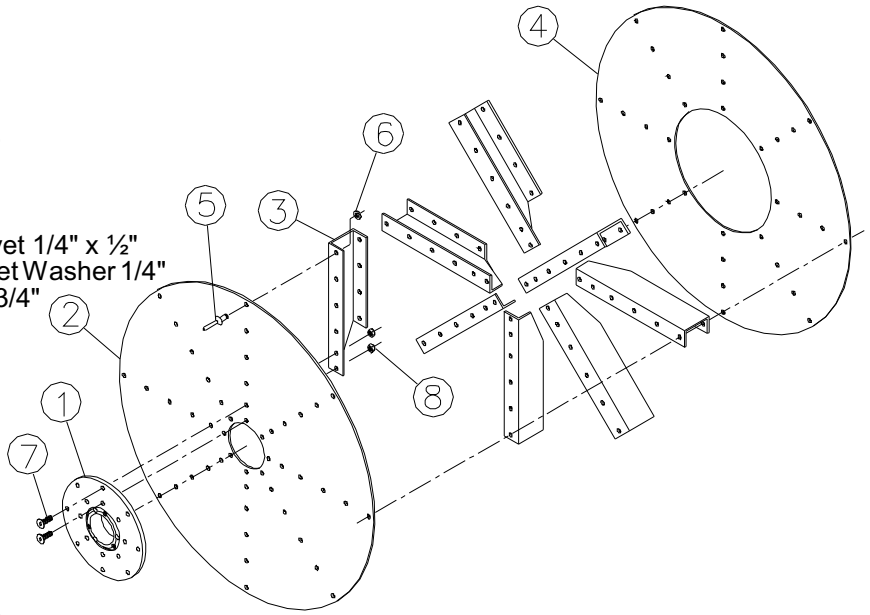
Vacuum Air Tubes & Fan

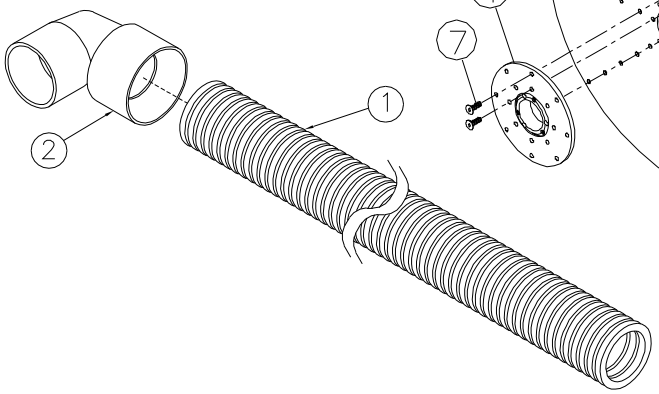


Item	Part No.	Description
1	878074	Fan Housing
2	973719	Vacuum Hose Mount
3	03423100	Clamp 6" Worm Drive
4	03334000	Hose 6" Kanaflex x Ft
5	270512	Vacuum Gauge Mount
6	611921	Vacuum Gauge
7	473587	Hose Barb 1/4" MP -1/8" Hose
8	610709	Rubber Hose 1/8" x Ft
9	01017300	HHCS 3/8" x 1"
10	330837	Nylock 3/8"
11	335703	HHCS 3/8" x 1½"
12	00242800	Clamp 1½" Worm Drive
13	610097	Cap 1 1/4" Plastic
14	276436	Outer Hose Clamp 3½"
15	276444	Inner Hose Clamp 3½"
16	339119	Carriage Bolt 1/4" x 1 1/4"
17	330522	Nylock 1/4"
18	572396	Convoluted Hose 3½"
19	276972	Upper Clamp 3½"
20	878090	Vacuum Hose 60"
	878108	Vacuum Hose 48"
21	978197	Vacuum Elbow -Steel

#878082 - Fan

Item	Qty	Part No.	Description
1	1	973917	Hub & Flange
2	1	270272	Front Plate
3	8	270280	Blade
4	1	270298	Back Plate
5	64	610642	Aluminum Rivet 1/4" x ½"
6	64	610659	Aluminum Rivet Washer 1/4"
7	16	338640	Screw 1/4" x 3/4"
8	16	330522	Nylock 1/4"

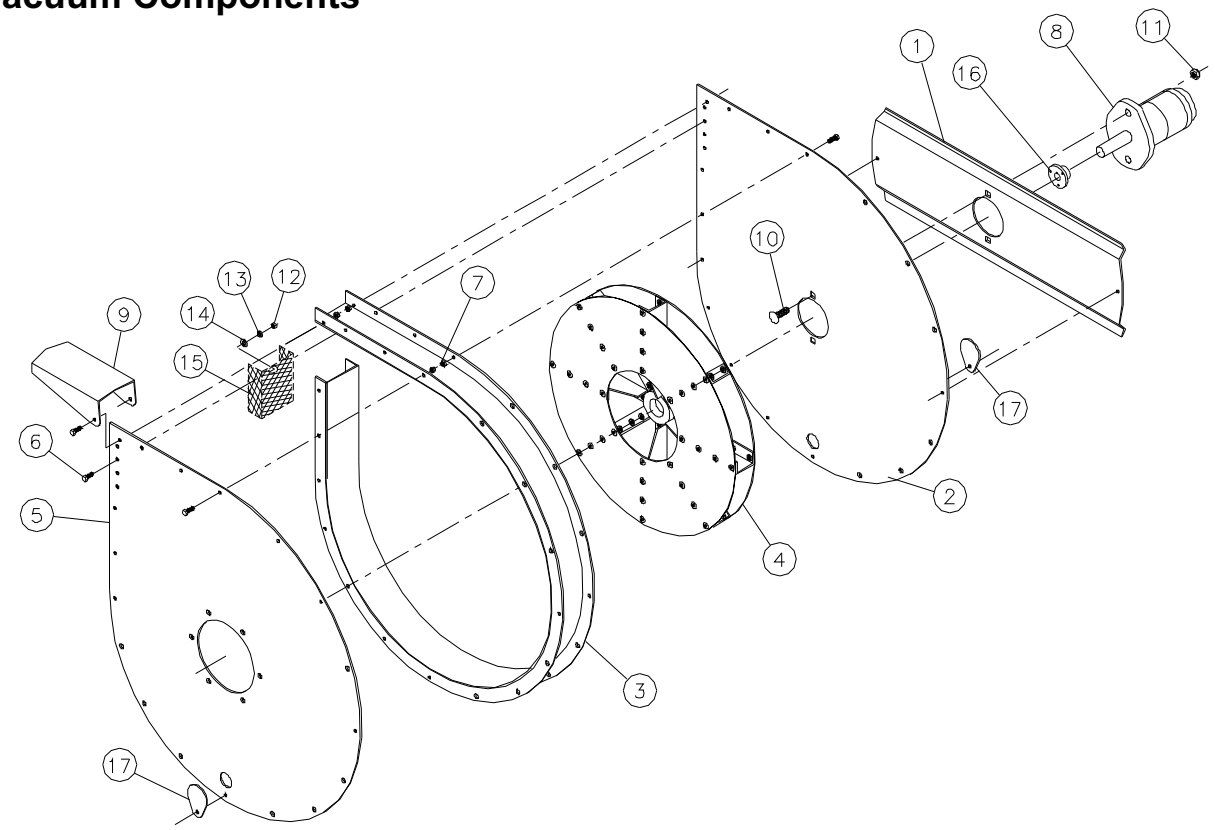




Vacuum Hose Assembly
#878108 - 48" Hose Assembly
#878090 - 60" Hose Assembly

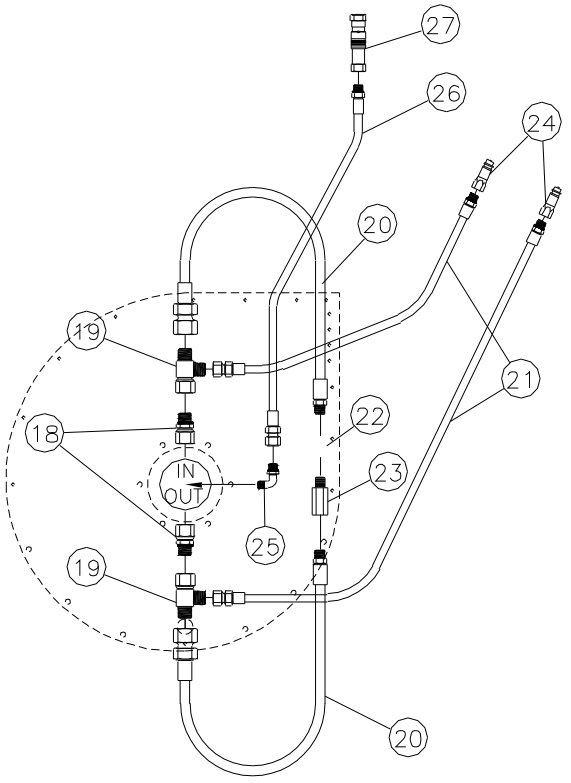
Item	Qty	Part No.	Description
1	4'	611756	Hose 1 1/4" (48")
	5'	611756	Hose 1 1/4" (60")
2	1	611772	Elbow 90° Black Plastic

Vacuum Components

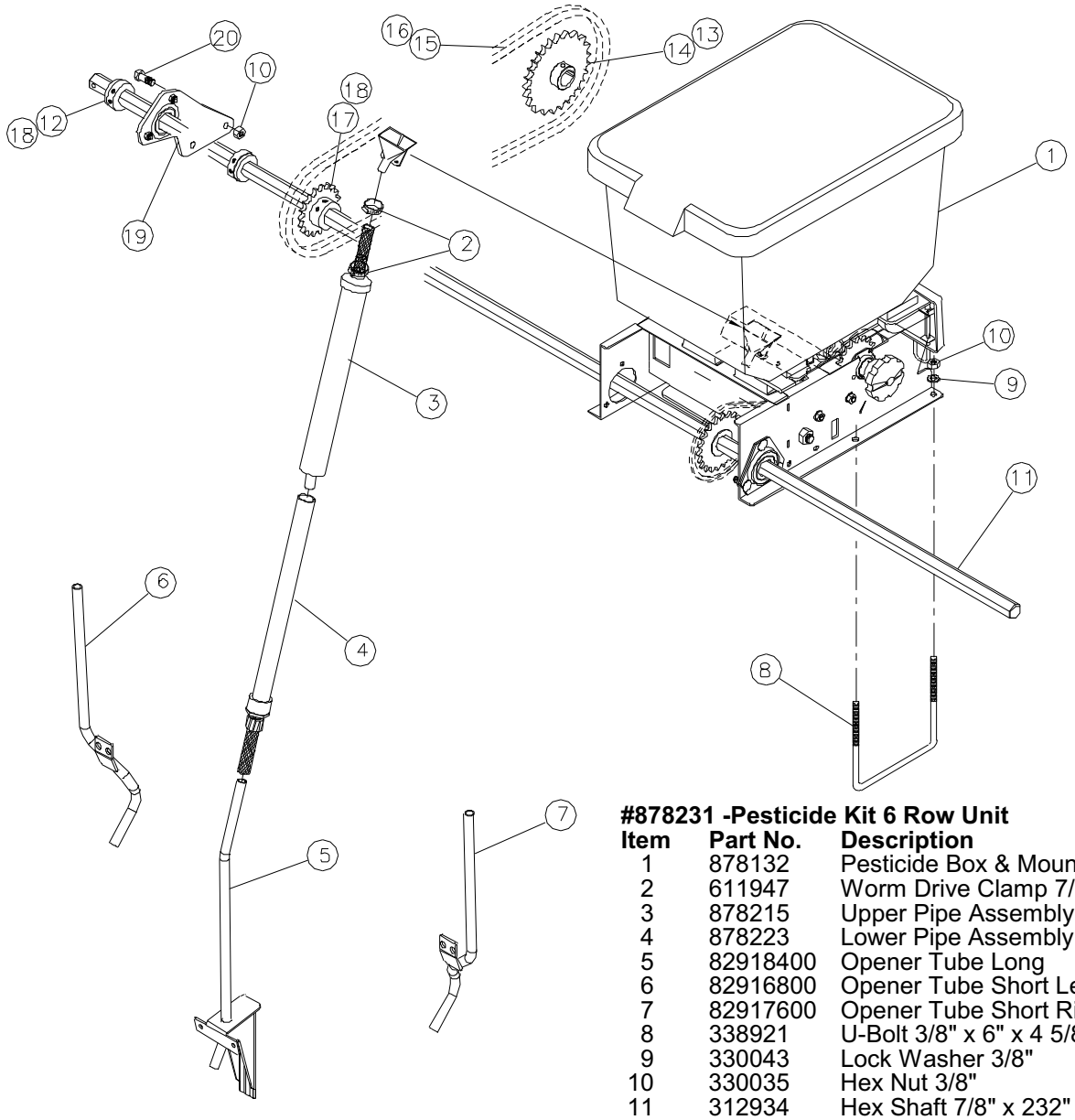


#878074 - Fan Housing

Item	Qty	Part No.	Description
1	1	270330	Motor Mount
2	1	270322	Front Plate
3	1	971531	Fan Housing
4	1	878082	Fan Assembly
5	1	270348	Back Plate
6	24	01057900	HHCS 1/4" x 3/4"
7	22	330522	Nylock 1/4"
8	1	474031	Motor
9	1	270447	Deflector
10	2	338780	Carriage Bolt 7/16" x 1½"
11	2	330738	Nylock 7/16"
12	2	332205	Hex Nut 1/4'
13	2	330050	Lock Washer 1/4"
14	2	02016400	Flat Washer 1/4"
15	1	272062	Fan Housing Screen
16	1	434340	Bushing 5/8" SH
17	2	272625	Cover
18	2	00590000	Adapter Straight 1 1/16 MOR x 1 1/16 JICM
19	2	03556800	Adapter Tee 1 1/16 JICM-2 x 1 1/16 JICF Sw
20	2	474080	Hose ½ x 24" 1 1/16 JICF Sw x ½ NPT
21	2	472951	Hose ½ x 84" 3/4 MOR x 1 1/16 JICF Sw
22	1	462085	Pipe Coupling ½"
23	1	468363	Hyd Check Valve ½ NPT
24	2	465385	Hyd Coupler Male 3/4 FOR
25	1	00598300	Adapter 90° 9/16 MOR x 9/16 JICM
26	1	474072	Hose 3/8 x 84" 9/16 JICF Sw x 3/4 MOR
27	1	474064	Hyd Coupler-Flat Face Male



Pesticide Unit Option

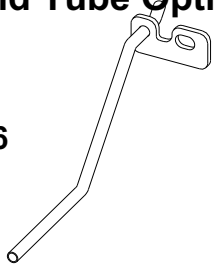


#878231 -Pesticide Kit 6 Row Unit

Item	Part No.	Description
1	878132	Pesticide Box & Mount
2	611947	Worm Drive Clamp 7/8"
3	878215	Upper Pipe Assembly
4	878223	Lower Pipe Assembly
5	82918400	Opener Tube Long
6	82916800	Opener Tube Short Left
7	82917600	Opener Tube Short Right
8	338921	U-Bolt 3/8" x 6" x 4 5/8"
9	330043	Lock Washer 3/8"
10	330035	Hex Nut 3/8"
11	312934	Hex Shaft 7/8" x 232"
12	639781	Hex Hub
13	10490100	Key 1/4" x 1 1/4"
14	970897	Sprocket #40 24T 1" w/keyway
15	434381	Chain #40 x 65 Pitches
16	434084	Chain #40 Connector
17	966648	Sprocket #40 19T -hex bore
18	334516	Set Screw 1/4-28 x 1/4
19	874230	Hex Bearing Mount Assembly
20	01017300	HHCS 3/8" x 1"

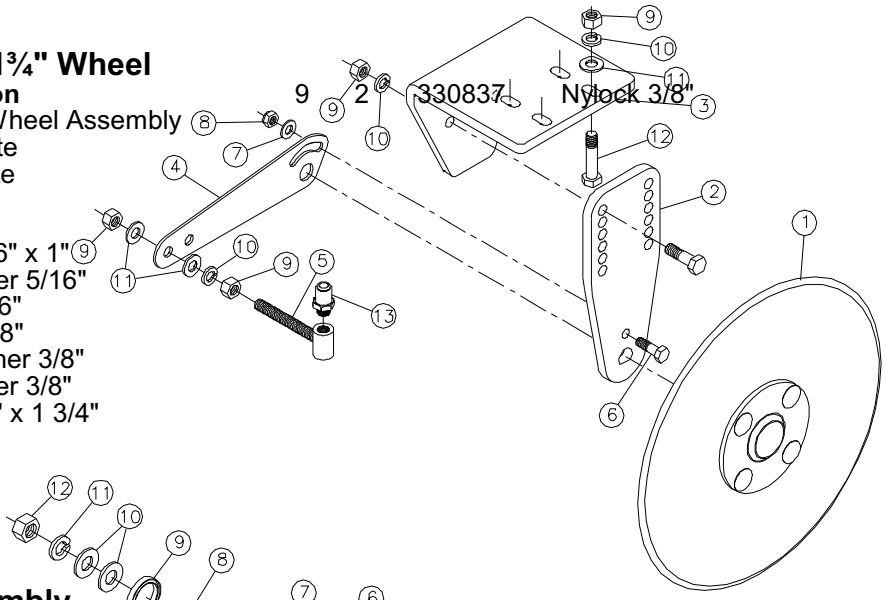
Stainless Steel Liquid Tube Option

#977306



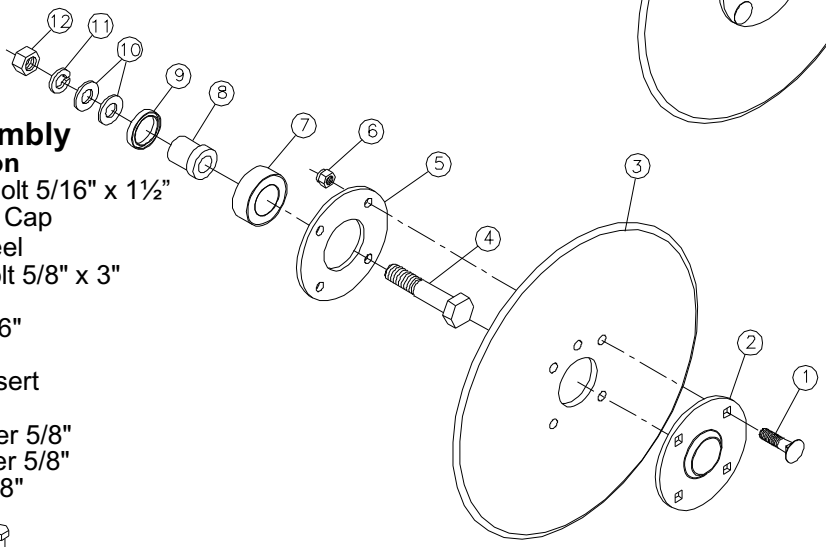
Note: To attach spray tip to liquid tube, purchase locally, a push to connect fitting for 3/8" tube to female 1/4" NPT (QJ1/4TTNYB) and a plastic adapter for 1/4" NPT male to spray cap (TEE-JET FC380140).

Fertilizer Option



#880088 -2x2 Fertilizer w/11¾" Wheel

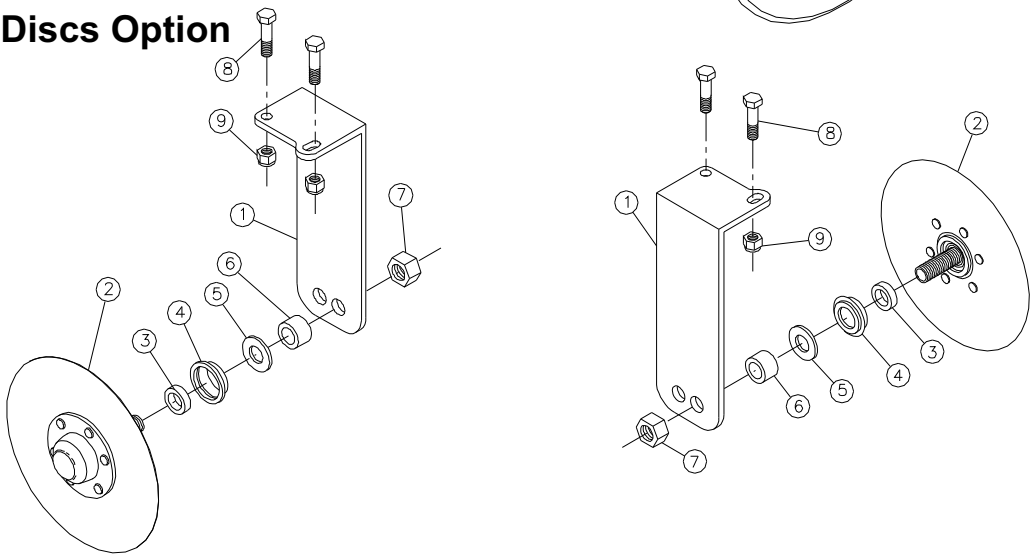
Item	Qty	Part No.	Description
1	1	880070	Fertilizer Wheel Assembly
2	1	244533	Wheel Plate
3	1	244541	Mount Plate
4	1	276907	Arm
5	1	976886	Nozzle
6	1	01010800	HHCS 5/16" x 1"
7	1	330852	Flat Washer 5/16"
8	1	331611	Nylock 5/16"
9	10	330035	Hex Nut 3/8"
10	9	330043	Lock Washer 3/8"
11	6	330894	Flat Washer 3/8"
12	4	335877	HHCS 3/8" x 1 3/4"
9	2	330837	Nylock 3/8"



#880070 -11¾" Wheel Assembly

Item	Qty	Part No.	Description
1	4	01261700	Carriage Bolt 5/16" x 1½"
2	1	614404	Outer Hub Cap
3	1	31958200	11¾" Wheel
4	1	614370	Spindle Bolt 5/8" x 3"
5	1	614412	Inner Hub
6	4	331611	Nylock 5/16"
7	1	614396	Bearing
8	1	614388	Bearing Insert
9	1	614420	Seal
10	2	330183	Flat Washer 5/8"
11	1	330878	Lock Wsher 5/8"
12	1	330571	Hex Nut 5/8"

Closing Discs Option



#880112 -Closing Disc Assembly Left

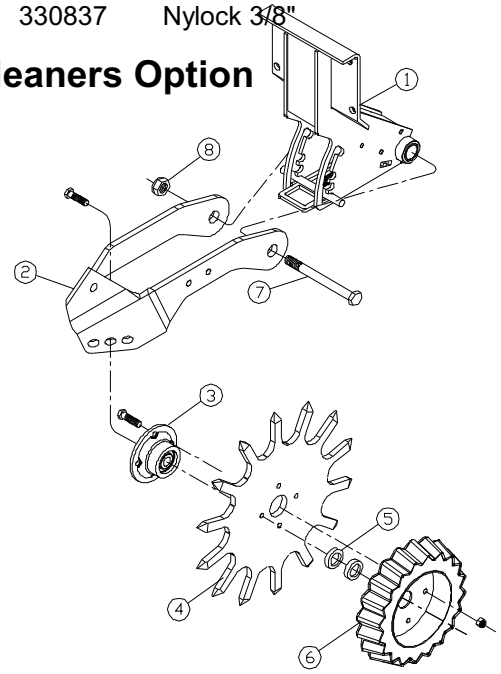
Item	Qty	Part No.	Description
1	1	244558	Mount Plate
2	1	614339	Closing Disc
3	1	606558	Bushing .657 x 1" x .281
4	1	400747	Dust Seal Hypalon
5	1	02222800	Flat Washer 5/8" Stainless
6	1	611749	Bushing .640 x 1" x .645
7	1	330571	Hex Nut 5/8"
8	2	335703	HHCS 3/8" x 1½"

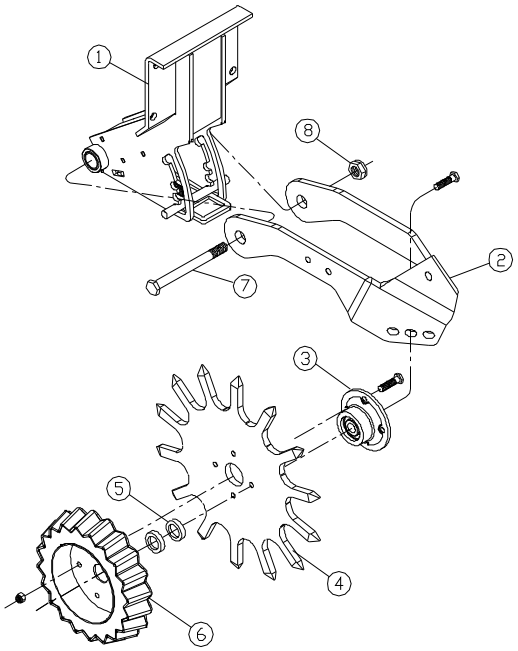
#880120 -Closing Disc Assembly Right

Item	Qty	Part No.	Description
1	1	244566	Mount Plate
2	1	614339	Closing Disc
3	1	606558	Bushing .657 x 1" x .281
4	1	400747	Dust Seal Hypalon
5	1	02222800	Flat Washer 5/8" Stainless
6	1	611749	Bushing .640 x 1" x .645
7	1	330571	Hex Nut 5/8"

8	2	335703	HHCS 3/8" x 1½"
9	2	330837	Nylock 3/8"

Row Cleaners Option





#879536 -Row Cleaner Left

Item	Qty	Part No.	Description
1	1	880476	Hanger Bracket
2	1	243394	Mounting Bracket Left
3	1	614313	Row Cleaner Hub
4	1	614362	Picker Wheel Left
5	2	606558	Bushing
6	1	614305	Row Cleaner Side Wheel
7	1	334284	HHCS 3/4" x 6½"
8	1	330316	Nylock 3/4"

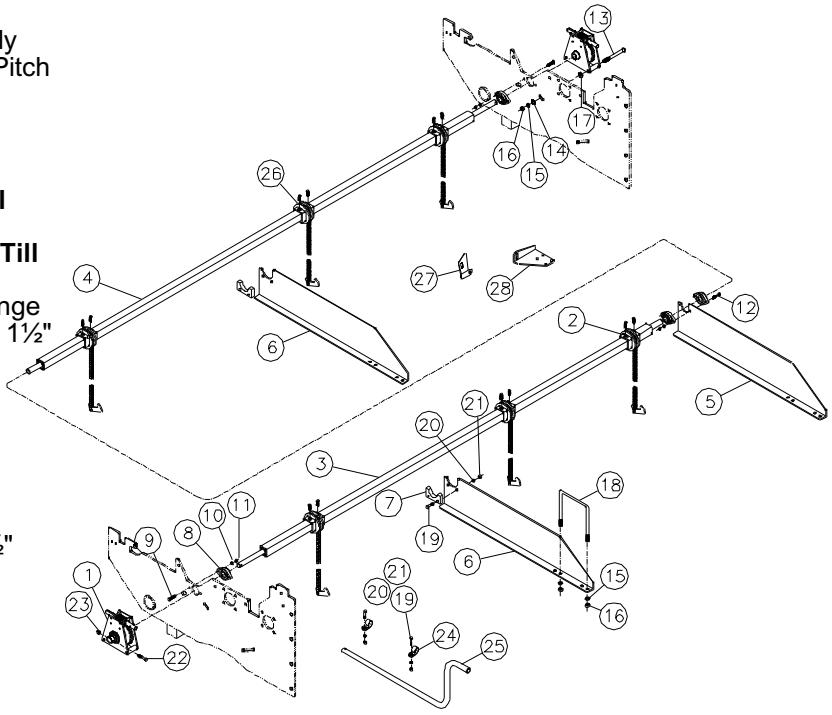
#879551 -Row Cleaner Right

Item	Qty	Part No.	Description
1	1	880476	Hanger Bracket
2	1	243451	Mounting Bracket Right
3	1	614313	Row Cleaner Hub
4	1	614354	Picker Wheel Right
5	2	606558	Bushing
6	1	614305	Row Cleaner Side Wheel
7	1	334284	HHCS 3/4" x 6½"
8	1	330316	Nylock 3/4"

Opener Lock Up Option

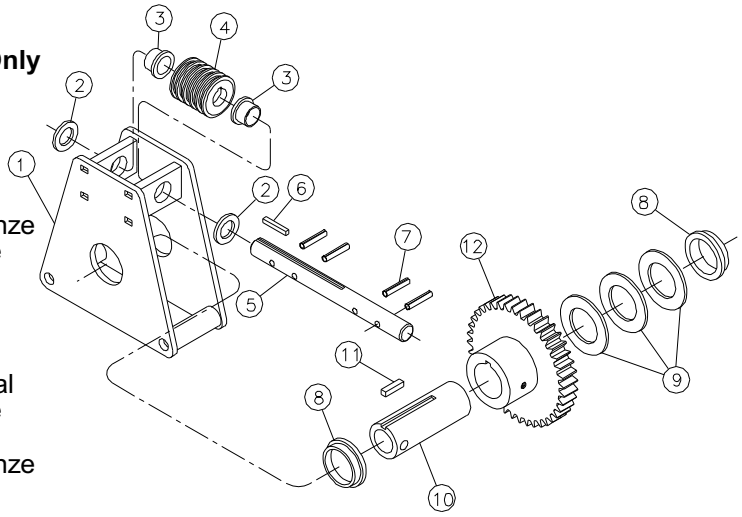
#879304 -Opener Lock Up
#880583 -Opener Lock Up -Strip Till

Item	Part No.	Description
1	879213	Worm Gear Assembly
2	879296	Lifting Sprocket -53 Pitch
	880591	61 Pitch -**Strip Till**
3	975987	Crank Tube Right
4	975995	Crank Tube Left
5	242990	End Mount
	244988	End Mount -**Strip Till**
6	243022	Center Mount
	244970	Center Mount -**Strip Till**
7	572339	Nylon Holder
8	03001500	Bearing 1" 2 Bolt Flange
9	01261700	Carriage Bolt 5/16" x 1½"
10	330845	Lock Washer 5/16"
11	330811	Hex Nut 5/16"
12	01152800	HHCS 5/16" x 1 3/4"
13	330126	HHCS ½" x 5½"
14	330159	Flat Washer ½"
15	330142	Lock Washer ½"
16	330134	Hex Nut ½"
17	335836	Slotted Flange Nut ½"
18	338962	U-Bolt ½" x 7" x 8"
19	335703	HHCS 3/8" x 1½"
20	330043	Lock Washer 3/8"
21	330035	Hex Nut 3/8"
22	334243	HHCS 3/8" x 2"
23	330837	Nylock 3/8"
24	03463700	Clamp 1 1/4"
25	156992	Crank
26	880195	Lifting Sprocket -41 Pitch
	880609	47 Pitch -**Strip Till**
27	244590	Mounting Bracket
28	245050	Mounting Bracket -**Strip Till Only**
*	615146	Square Plug



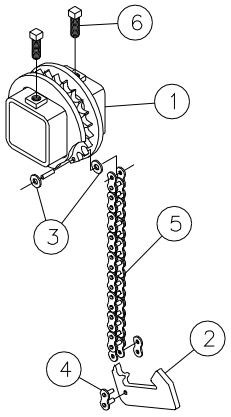
#879213 -Worm Gear

Item	Qty	Part No.	Description
1	1	975862	Gear Box
2	2	613604	Thrust Bearing 3/4" Bronze
3	2	613620	Flanged Bearing Bronze .756 x 7/8" x ½"
4	1	613661	Worm 3/4" Bore
5	1	313841	Shaft
6	1	605576	Key 3/16" x 1 1/4"
7	4	335604	Roll Pin 1/4 x 1 1/4 Spiral
8	2	613646	Flanged Bearing Bronze 1½" x 1 3/4" x ½"
9	3	613653	Thrust Bearing 1½" Bronze
10	1	157008	Worm Gear Shaft
11	1	602367	Key 1/4" x 1"
12	1	642470	Worm Gear 40T -1½"



#879296 -Lifting Sprocket

Item	Qty	Part No.	Description
1	1	975854	Sprocket
2	1	242560	Lock Up Plate
3	2	02692200	Flat Washer #10
4	2	434084	Chain #40 Connector Link
5	1	434407	Chain #40 x 53 Pitch
6	2	335638	Set Screw 3/8" x 1" Square Cup



CrustBuster
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