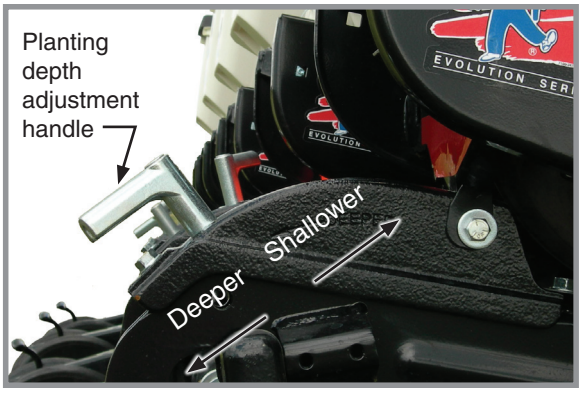
PLANTING DEPTH

Planting depth is maintained by adjustable row unit gauge wheels. Depth adjustment range is approximately ½" to 3½".

1. Raise planter to remove weight from wheels.

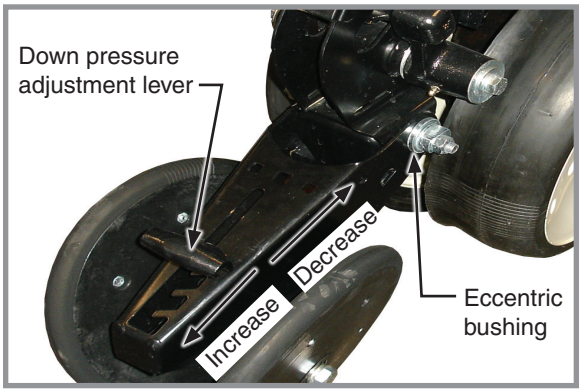
2. Push down on depth adjustment handle and reposition it forward to decrease or rearward to increase planting depth. Initially adjust all units to the same setting.

3. Lower planter and check operation and planting depth of all row units. Readjust individual rows as needed for uniform operation.

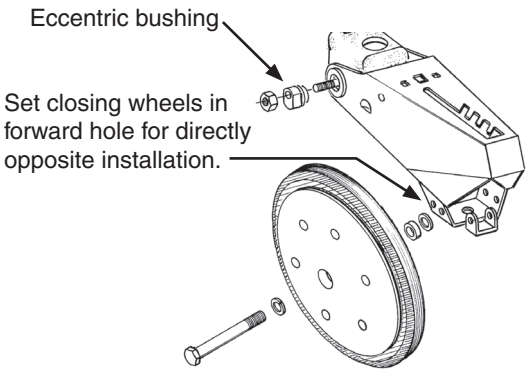


Planting depth adjustment

"V" CLOSING WHEEL ADJUSTMENT (RUBBER OR CAST IRON)



"V" Closing wheel adjustments



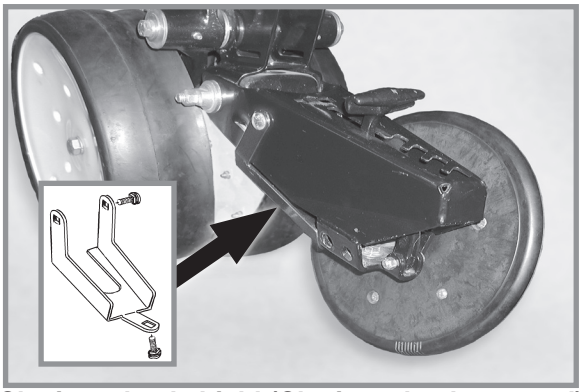
"V" closing wheels should have enough down pressure to close the seed trench and ensure good soil to seed contact. Move 5-position quick adjustable down force lever on the top of closing wheel arm to the rear to increase closing wheel spring pressure. Move lever forward to decrease pressure. Adjust all row units to a similar setting. Light soil usually requires less down force at average depth (approximately 2") while heavy soil requires increased down force.

Eccentric bushings in the wheel arm stop allow for lateral adjustment of the "V" closing wheel assembly. Use a ¾" wrench to loosen hardware attaching closing wheel arm to wheel arm stop. Use another ¾" wrench to turn eccentric bushings until **closing wheels are aligned with seed trench**. Tighten hardware.

Closing wheels can be installed "offset" (to improve residue flow) or "directly" opposite. Use forward installation holes If set "directly" opposite.

CLOSING WHEEL SHIELD (RUBBER OR CAST IRON "V" CLOSING WHEELS)

Optional closing wheel shield is installed on underside of closing wheel arm to help prevent root balls and stalks from clogging closing wheels.

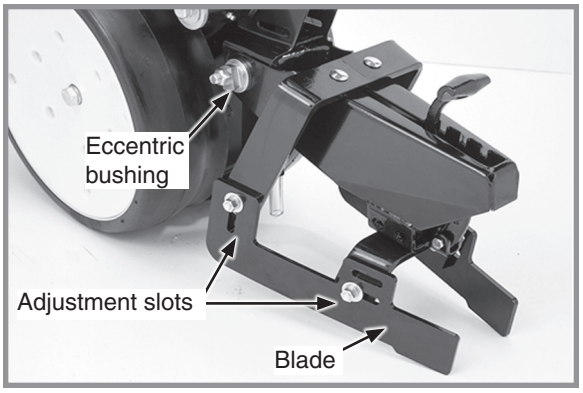

Closing wheel shield (Closing wheel removed)

DRAG CLOSING ATTACHMENT

Drag closing attachment pulls loose soil over seed trench.

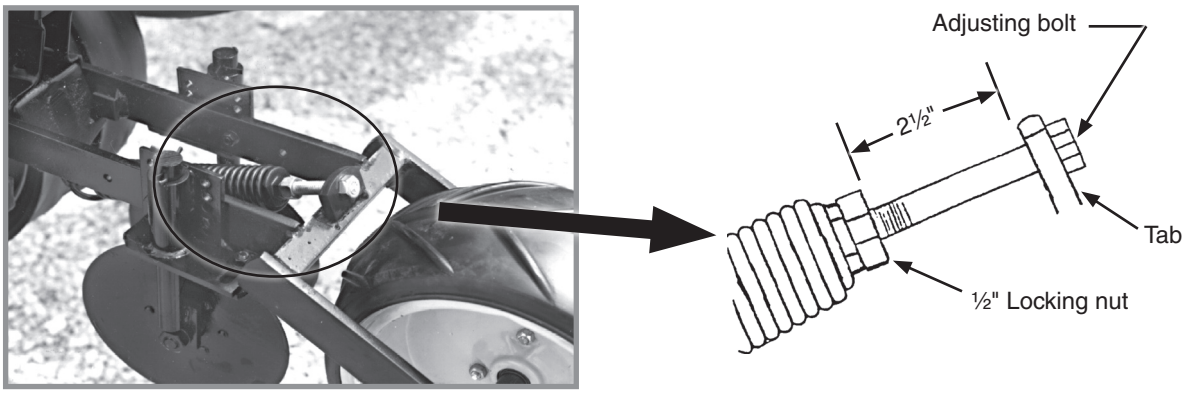
NOTE: Use of a seed firming wheel or other seed firming device is recommended with drag closing attachment.

Front and rear adjustment is made using slotted holes in blades. Adjust all rows the same. Wheel arm stop eccentric bushings provide lateral adjustment. Use a ¾" wrench to loosen closing wheel arm to wheel arm stop hardware. Use another ¾" wrench to turn eccentric bushings until drag closing attachment is aligned with seed trench. Tighten hardware.



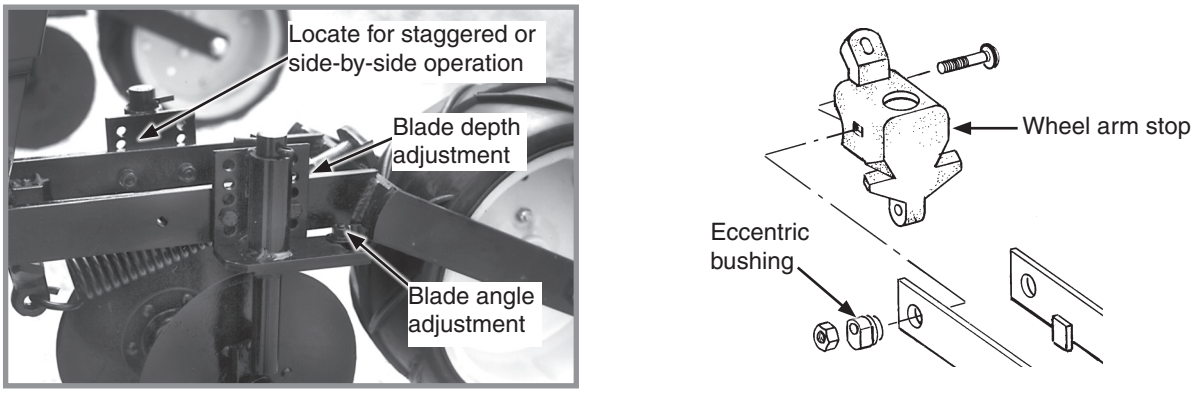
Drag closing attachment

COVERING DISCS/SINGLE PRESS WHEEL ADJUSTMENT



Press wheel down force adjustment

Check operation of covering discs/single press wheels after adjusting planting depth. Initial press wheel down force spring setting is 2½" between mounting arm tab and locking nut. Loosen ½" locking nut and turn adjusting bolt in to increase down force or out to decrease down force. Tighten locking nut against spring plug. Adjust all row units to a similar setting.



Covering disc adjustments

Eccentric bushings in the wheel arm stop allow for lateral adjustment of covering discs/single press wheel assembly. Use a ¾" wrench to loosen hardware attaching closing wheel arm to wheel arm stop. Use another ¾" wrench to turn eccentric bushings until covering discs/single press wheel assembly is aligned with seed trench. Tighten hardware. Two sets of holes in mounting arm locate covering discs for staggered or side-by-side operation. Five sets of holes in each disc bracket allow ½" incremental blade depth adjustment. Slotted holes in disc mount and bracket allow for 0° - 15° blade angle adjustment. Adjust covering discs on all row units to similar settings.

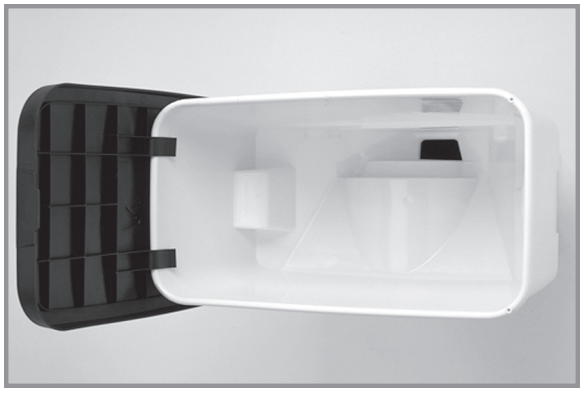
SEED HOPPERS

Mechanical seed hopper has a capacity of 1.9 bushels.

EdgeVac seed hopper has a capacity of 1.75 bushels.

Use clean seed and make certain there are no foreign objects inside when filling seed hopper. **Replace hopper lids after hoppers are filled to prevent accumulation of dust or dirt in seed meter which can cause premature wear.** See "Finger Pickup Seed Meter" and/or "Brush-Type Seed Meter".

Periodically empty hoppers completely to remove any foreign objects and to ensure proper seed meter operation.



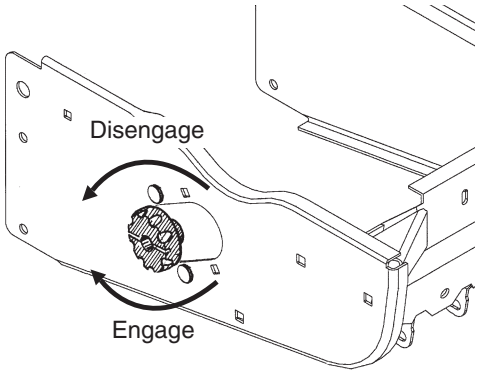
Mechanical seed hopper

Disengage meter drive and hopper latch and lift hopper off hopper support. See "Seed Meter Drive Release".

SEED METER DRIVE RELEASE

A clutch release mechanism disengages seed meter drive from seed meter to remove seed hopper. Disconnecting drive allows operator to check granular chemical application rates without dropping seed. It also allows one or more rows to be disconnected when finishing fields.

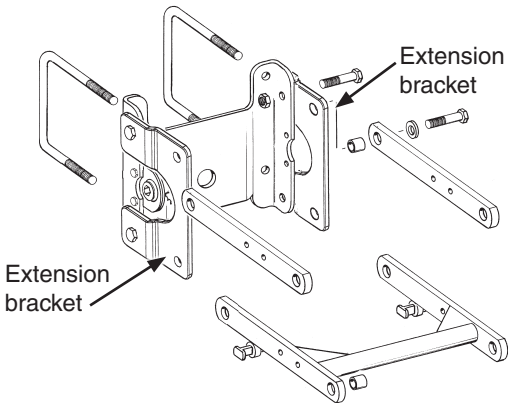
Turn knob ¼ turn counterclockwise to disengage or ¼ turn clockwise to engage.



Seed meter drive release

ROW UNIT EXTENSION BRACKETS

Row unit extension brackets extend row units rearward 4" to provide clearance for coulter mounted residue wheels and HD single disc fertilizer openers.

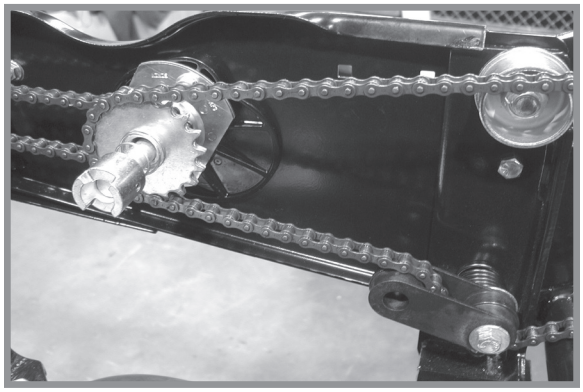


Row unit extension brackets

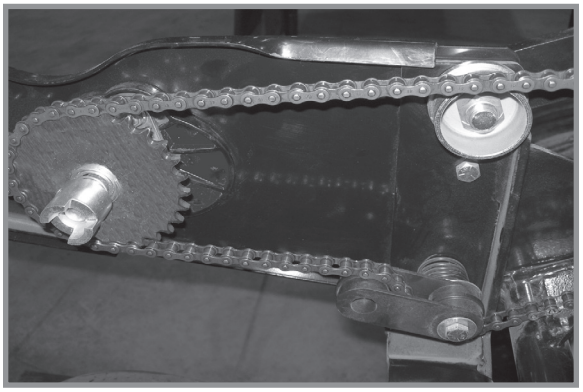
ROW UNIT CHAIN ROUTING

Row unit drive chains must be properly tensioned and aligned for proper operation and to minimize wear.

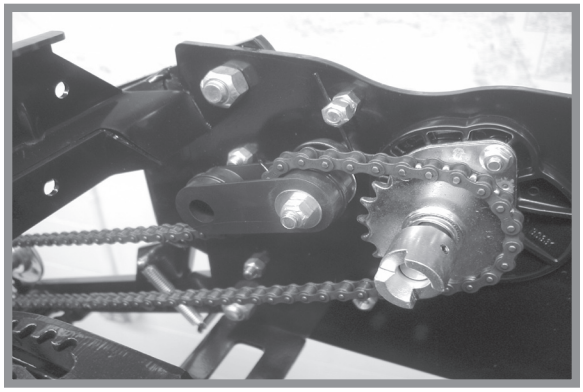
Inspect and replace weak, worn or broken springs, idlers, and idler bushings.



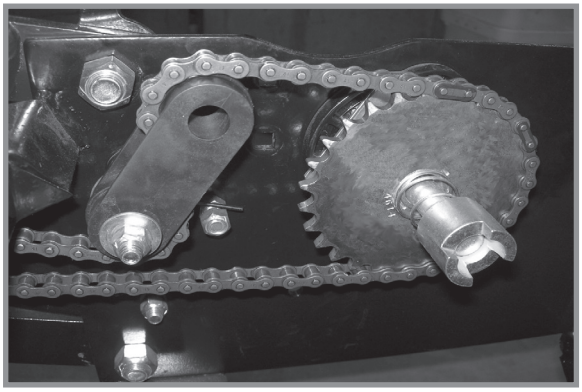
Mechanical pull row unit meter drive



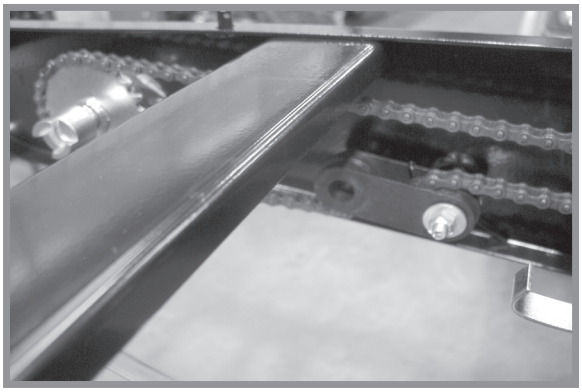
EdgeVac pull row unit meter drive



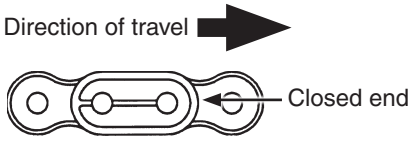
Mechanical push row unit meter drive



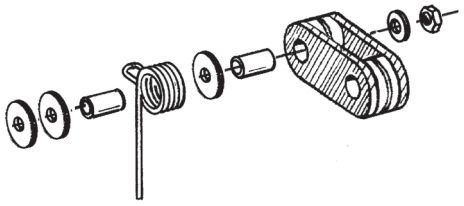
EdgeVac push row unit meter drive



Row unit granular chemical drive



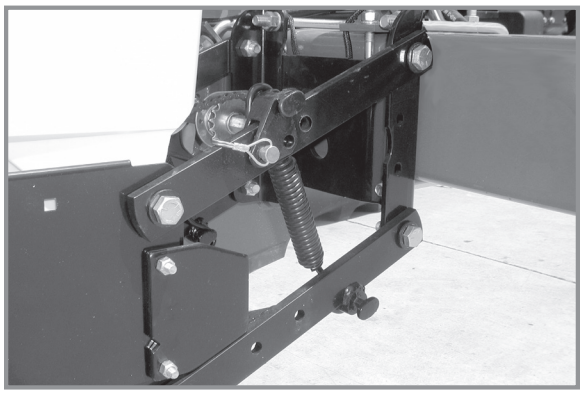
NOTE: Install connector link with closed end facing direction of travel.



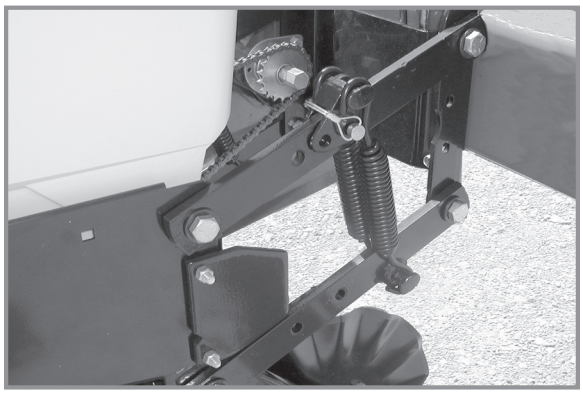
NOTE: Reverse idler when worn on one side for extended use.

QUICK ADJUSTABLE DOWN FORCE SPRINGS OPTION (STANDARD OR HEAVY DUTY)

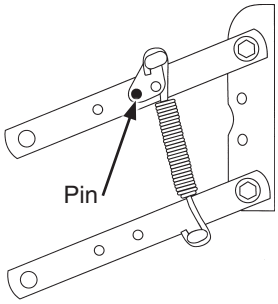
Standard and heavy duty quick adjustable down force springs are available in increase penetration in hard soil and keep row unit from bouncing in rough field conditions. Two springs per row, one on each side parallel arms, are used unless equipped with row unit mounted no till coulters. Row unit mounted no till coulters require four springs per row.



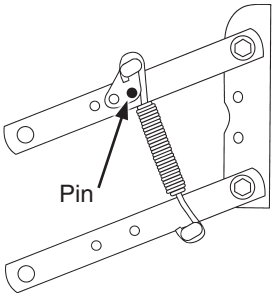
Two springs per row (Dual)



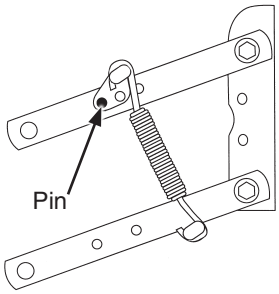
Four springs per row (Quad)



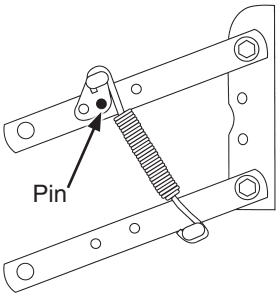
Position 1 (Least)



Position 2



Position 3



Position 4 (Most)

There are four positions to set down pressure spring tension.

Standard and Heavy Duty Spring Down Force Pressure*				
	2 Springs		4 Springs	
Position	Standard D8249	Heavy Duty D21337	Standard D8249	Heavy Duty D21337
1	41lb (18.6 kg)	43 lb (19.5 kg)	74 lb (33.6 kg)	80 lb (36.3 kg)
2	73 lb (33.1 kg)	86 lb (39.0 kg)	120 lb (54.4 kg)	144 lb (65.3 kg)
3	136 lb (61.7 kg)	167 lb (75.7 kg)	255 lb (115.7 kg)	307 lb (139.3 kg)
4	207 lb (93.9 kg)	249 lb (113.0 kg)	369 lb (167.4 kg)	470 lb (213.2 kg)
*Pressure does not include weight of row unit, seed, or options.				

NOTICE

Springs must be installed with open side of spring hooks toward seed hoppers to prevent binding on spring mount adjustment pins.

1. Raise planter and remove spring mount pin at top of spring.

2. Slide mount to desired position and install pin.

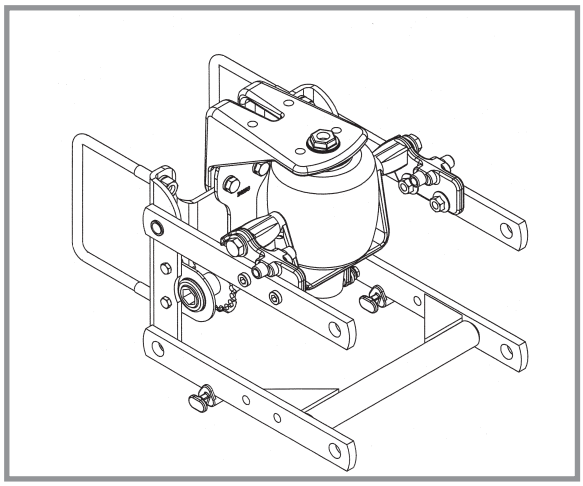
NOTE: Adjust springs for field conditions. Too much down pressure in hard field conditions can cause row units to lift planter and keep drive wheels from making contact. Too much down pressure in soft field conditions can cause row unit to run too deep.

PNEUMATIC DOWN PRESSURE PACKAGE OPTION

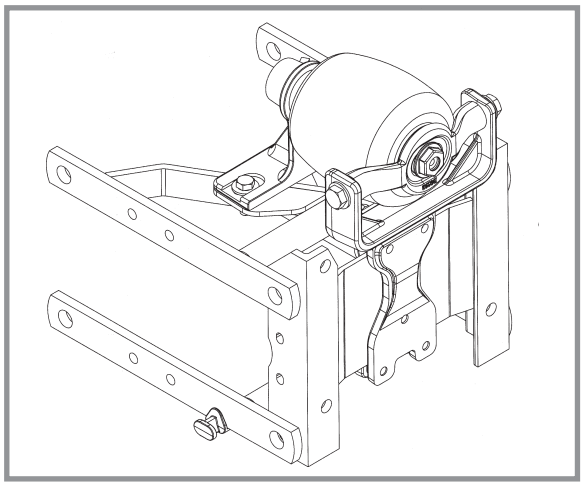
Row unit down pressure can be adjusted on-the-go as field conditions change with pneumatic down pressure option. A cab-mounted control box adjusts pressure (Older models may have a digital readout). A planter-mounted 12 VDC air compressor with 3 gallon capacity air tank supplies air for the down pressure system.

Packages include upper and lower air spring mounting castings for pull row units (front and rear air spring mounting castings for push row units), 150 psi rated air springs, ⅜" O.D. nylon hoses, dual solenoid air valve and stainless steel, 160 psi, 2" liquid-filled gauge and planter wiring harness.

Pneumatic down pressure row unit extension brackets are required in some applications.

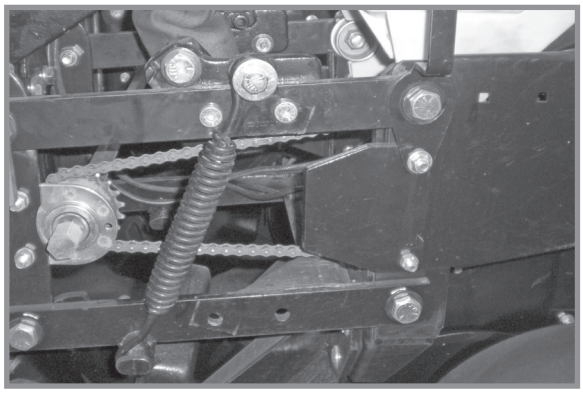


Pull row unit air spring

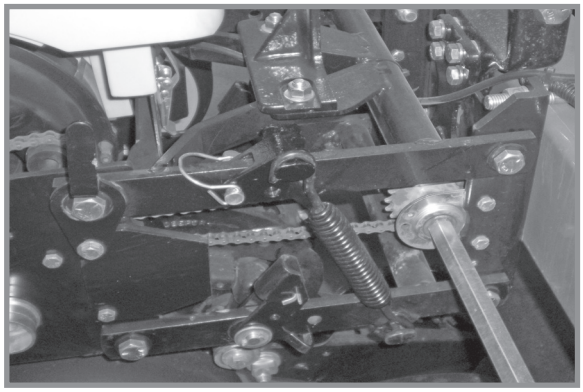


Push row unit air spring

NOTE: If additional down pressure is needed with the Pneumatic Down Pressure Package, assist springs are available through your Kinze dealer. One spring is installed on the outer side of the parallel arms on each side of the row unit as shown below.



Pull row unit assist springs

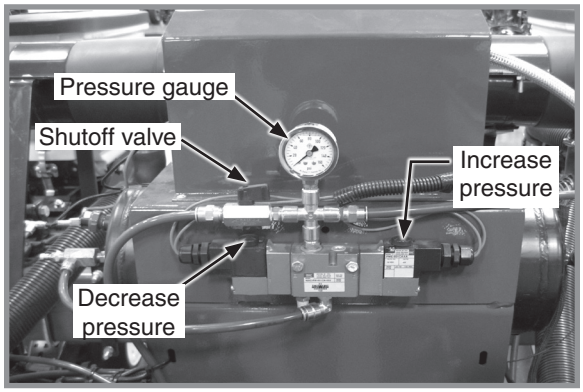


Push row unit assist springs

FIELD OPERATION

NOTE: Adjust down pressure with planter lowered and row openers in ground for most accurate adjustment. Pressure can be adjusted from tractor using control console, or at planter using manual control valves on compressor assembly.

Control console



Air compressor assembly controls

ADJUST DOWN PRESSURE FROM CAB

Push toggle switch left to increase or right to decrease pressure.

ADJUST DOWN PRESSURE AT PLANTER

Push and hold decrease or increase button on compressor assembly to decrease or increase pressure.

NOTE: Value on the air pressure gauge is NOT down pressure force. Multiply air pressure (psi) by four (4) to calculate down pressure.

LOCK UP PUSH ROW UNITS EQUIPPED WITH PNEUMATIC DOWN PRESSURE SPRINGS

1. Press and hold button on solenoid until pressure gauge reads 5 PSI.
2. Lock up units. See “Interplant Push Unit Lockup” for instructions.
3. Turn shutoff valve handle perpendicular to valve body to turn off push row unit air supply.

INTERPLANT PUSH ROW UNIT CLUTCH SPROCKET

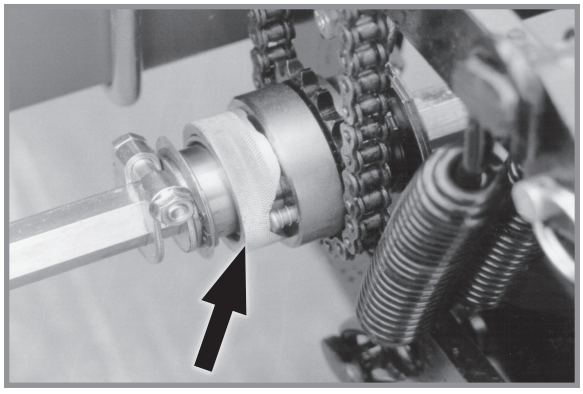
Push row unit clutch sprocket disengages interplant drive from push row unit drill shaft when only pull row units are used.

DISENGAGE

Rotate knurled collar ¼ turn. Rock drill shaft slightly using a ⅞" wrench to take pressure off of spring loaded pins in clutch to allow pins to “pop” out, disengaging drive.

ENGAGE

Rotate knurled collar ¼ turn and turn drill shaft with a ⅞" wrench until drive pins engage drive sprocket.



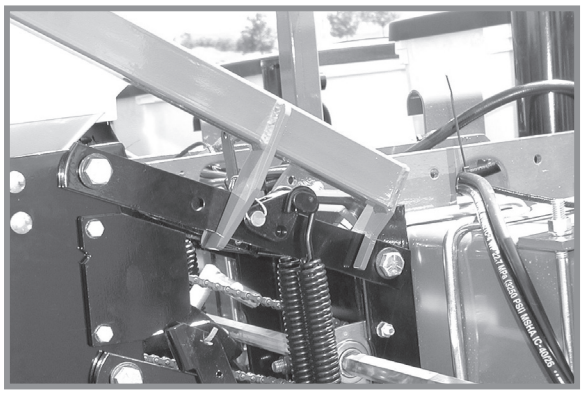
Interplant clutch sprocket

INTERPLANT PUSH ROW UNIT LOCKUPS

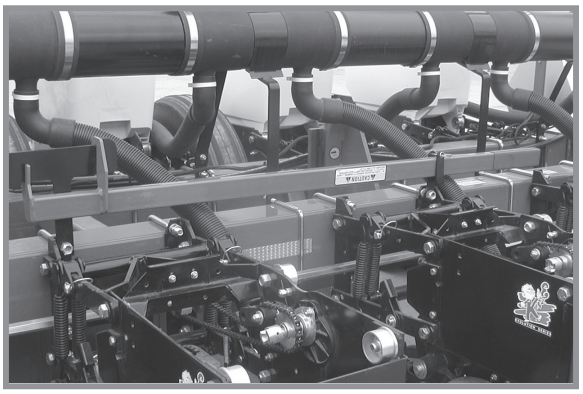
Push row unit lockups lock interplant row units in the raised position.

⚠ CAUTION

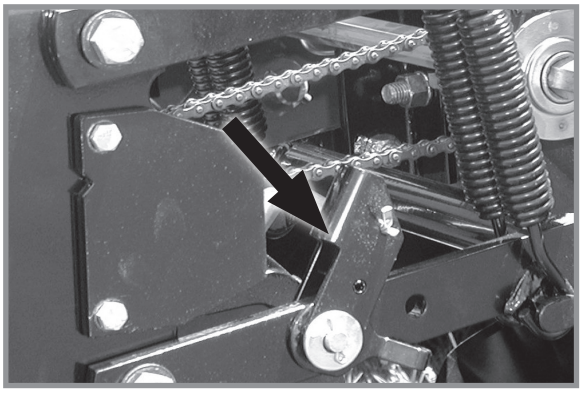
Improper lifting of row units can cause serious injury. An empty row unit requires minimum 90 lb (40.8 kg) lift. Set down pressure springs to minimum, lower planter to ground, and empty seed hopper before attempting to lift with this lever.



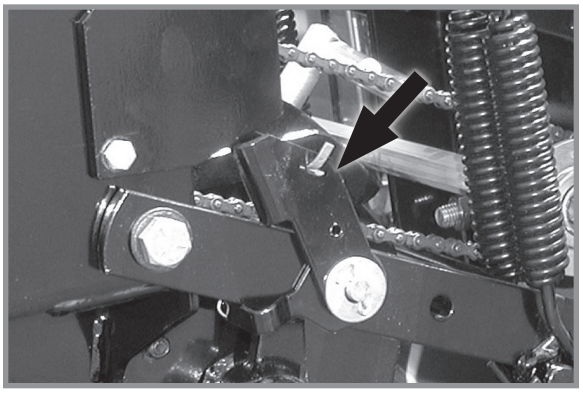
Lift lever positioned on push row unit



Lift lever in storage location

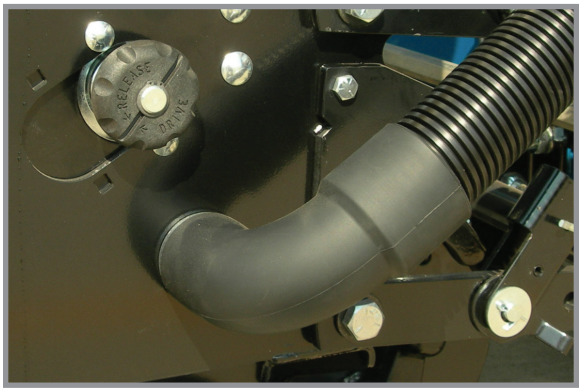


Lockup released for field operation



Push row unit locked in raised position

INTERPLANT PUSH ROW UNIT VACUUM HOSE SHUTOFF



Interplant vacuum hose shutoff

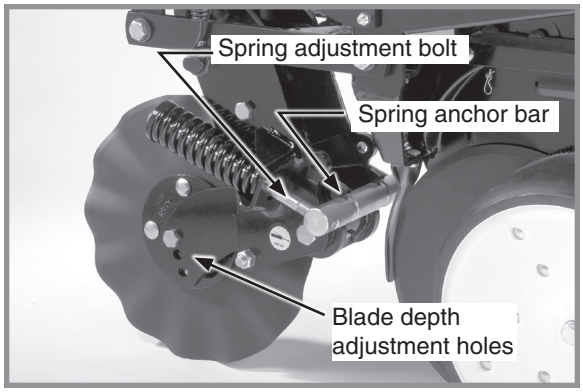
When push row units are not used, move row unit end of 2" vacuum hose on each push row unit to storage mount located on side of shank.

FRAME MOUNTED COULTER (PULL ROW ONLY)

Frame mounted coulters with 1" bubbled, 1" fluted (8 flutes) or ¾" fluted (13 flutes) blades are used on pull row units only.

Springs provide down pressure on coulter for maximum penetration while exerting less shock load on row unit.

Initial coulter blade location is in top hole. Relocate blade to one of lower two holes (1" increments) as wear occurs or for deeper blade operation.



Frame mounted coulter adjustment

DOWN PRESSURE ADJUSTMENT

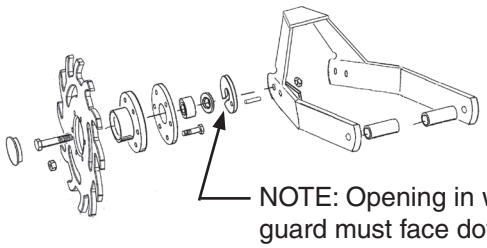
NOTICE

Excessive down pressure can damage coulter components when coulter strikes an obstacle. Do not set down pressure higher than needed for consistent soil penetration.

Raise planter. Turn spring adjustment bolts clockwise to increase or counterclockwise to decrease down pressure. Set both springs to specification shown in following table:

Frame Mounted Coulter Spring Downpressure Settings		
End flush with spring anchor bar	Extended ½" through spring anchor bar	All threads used
275 lb (124.7 kg)	400 lb (181.4 kg)	500 lb (226.8 kg)

RESIDUE WHEELS (FOR FRAME MOUNTED COULTER)



NOTICE

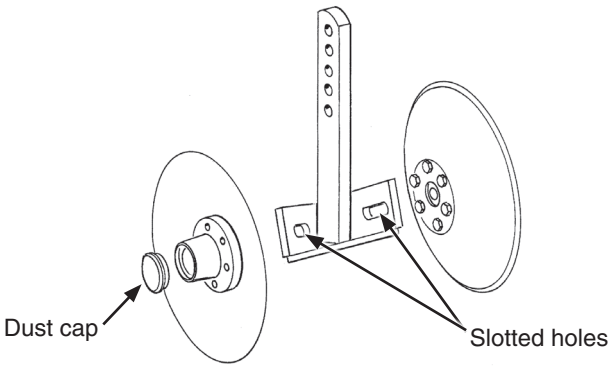
Tined wheel forward mounting positions cannot be used behind 3600 axles due to limited cklearance.

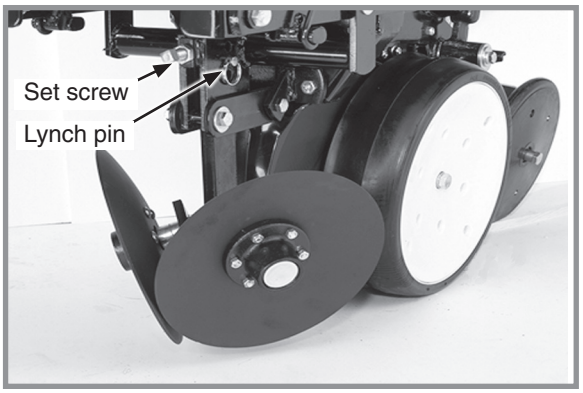
Residue wheels attach to frame mounted coulter with two cap screws and sleeves allowing the unit to free-float. A 2-position spindle bolt mounting positions wheels interlocked or staggered. Depth adjustment is made with a spring-loaded cam and pin with 11 positions in ¼" increments. A high point on the cam allows wheels to be locked up.

A weed guard on the inboard side of each wheel helps prevent weed wrap which can cause premature bearing failure.

ROW UNIT MOUNTED DISC FURROWER (PULL ROW ONLY)

Disc furrowers are used to clear crop residue, dirt clods, and dry soil from in front of row units for a clean and smooth seed bed. The disc furrower may be equipped with 12" solid blades or 12" notched blades. Notched blades are for heavier residue conditions and cut crop residue and move it aside to prevent plugging or pushing.





Disc furrower adjustment

Vertical adjustment can be made in ⅓" increments. Remove lynch pin in vertical support arm and move arm up or down. Reinstall lynch pin. Finer adjustment can be made by removing lynch pin and using ⅝" x 2¼" set screw to clamp support arm in position.

Slotted holes in support arm allow front to rear disc blade adjustment. Blades can be adjusted so front edges meet or cutting edge of one blade overlaps edge of other blade.

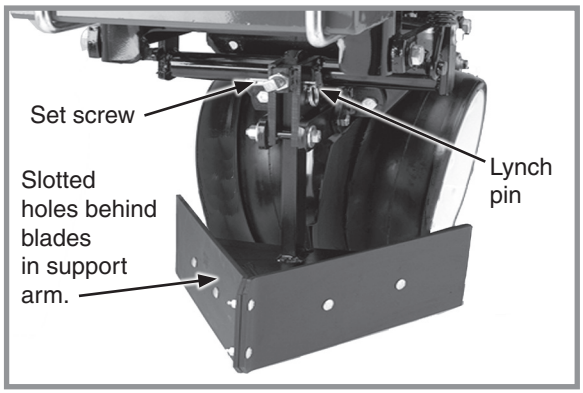
NOTE: Dust cap must be removed to make adjustments.

ROW UNIT MOUNTED BED LEVELER (PULL ROW ONLY)

NOTE: Row unit mounted bed leveler is not compatible with row spacings less than 36".

Vertical adjustment can be made in ⅓" increments. Remove lynch pin in vertical support arm and move arm up or down. Reinstall lynch pin. Finer adjustment can be made by removing lynch pin and using ⅝" x 2¼" set screw to clamp support arm in position.

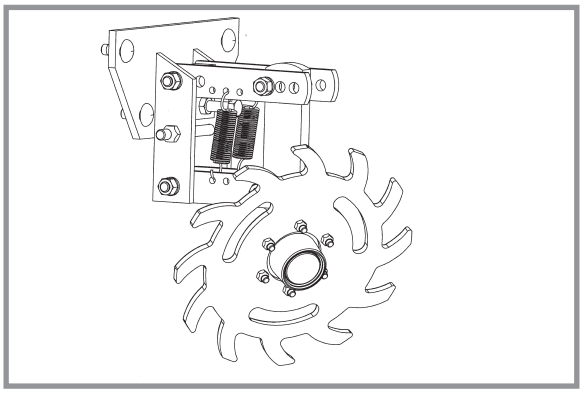
Slotted holes in support arm allow blade adjustment. Blades can be tilted up or down.



Bed leveler adjustment

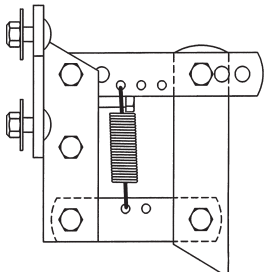
ROW UNIT MOUNTED RESIDUE WHEEL

Row unit mounted residue wheels are used on pull and push row units.

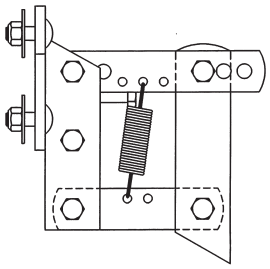


Row Unit Mounted Residue Wheel

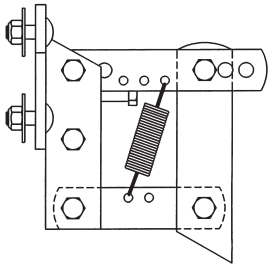
Two adjustable springs on each residue wheel parallel links provide down force adjustment. Position 1 provides minimum down pressure and position 3 maximum down pressure.



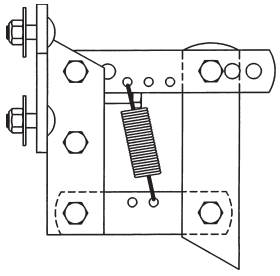
Position 1 *(Least)*



Position 2

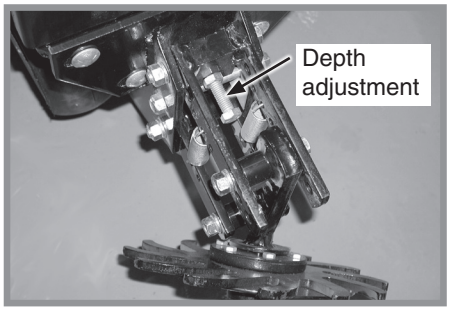


Position 3 *(Most)*

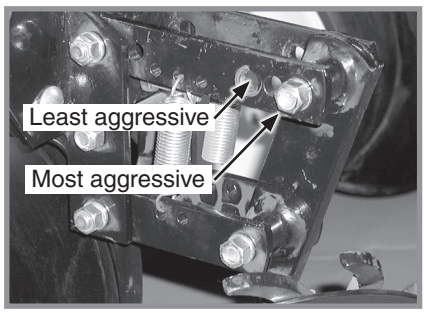


Additional uplift or float

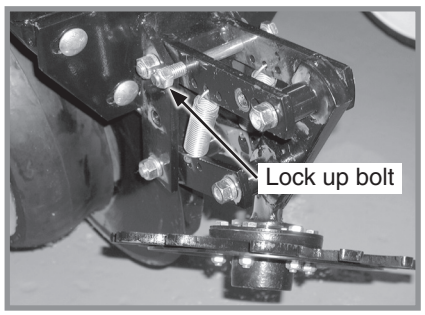
Raise row unit and reposition springs to adjust down pressure.



Wheel depth adjustment



Wheel angle adjustment



Wheel lock up

A full threaded bolt and jam nut located on the upper link sets maximum depth for loose soil conditions. Initial setting is 1¾" above row unit double disc opener depth.

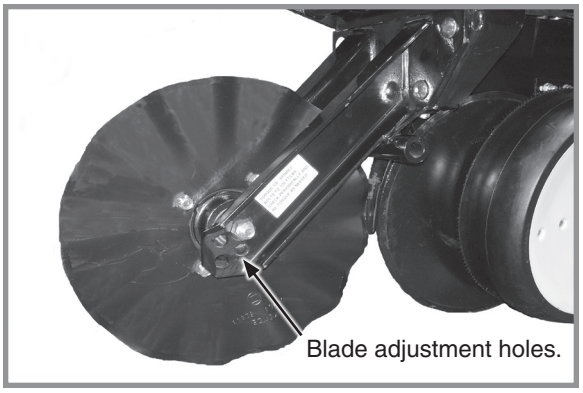
Three holes in upper link adjust wheel angle. With wheel mount in most vertical position, using the rear hole in the upper link, the residue wheel is most aggressive. Moving wheel mount to a forward hole reduces aggressiveness of residue wheel for use in mulch till applications where soil is loose.

To lock residue wheel up, remove ½" x 5" lockup bolt, raise residue wheel and install bolt.

ROW UNIT MOUNTED NO TILL COULTER

Row unit mounted no till coulters with 1" bubbled, 1" fluted (8 flutes) or ¾" fluted (13 flutes) blades may be used on pull row units and push row units (¾" fluted shown). Four quick adjustable down force springs are required per row when using row unit mounted no till coulters. See “Quick Adjustable Down Force Springs Options”.

Align coulter blade to row unit double disc openers. Adjust by loosening four attaching bolts, moving coulter arm, and tightening four attaching bolts. Coulter blade can be adjusted to one of four ½" incremental settings in the forked arm. Initial location is the top hole.



Row Unit Mounted No Till Coulter

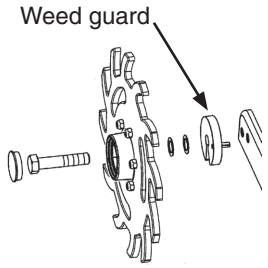
Move blade as it wears to one of the three lower hole to maintain coulter blade at or slightly below opener discs. Adjust coulter below depth of double disc opener blades in very hard soil conditions such as compacted wheel tracks to improve opener penetration and cutting of surface residue.

Check operating depth by setting planter down on a level concrete floor and checking relationship between coulter blade and row unit opener blade. Make sure planter is level and coulter is square with planter frame and aligned with row unit disc opener.

NOTE: Torque ⅝" spindle hardware to 120 ft-lb (162.7 N-m).

COULTER MOUNTED RESIDUE WHEELS

Coulter mounted residue wheels are designed for use on pull row units and push row units. Row unit extension brackets are required on the four center pull row units if the planter is equipped with coulter mounted residue wheels.



NOTE: Opening in weed guard must face down.

Coulter mounted residue wheels

Residue wheels attach to row unit mounted coulter with two cap screws and sleeves allowing unit to free-float. A 2-position spindle bolt mounting positions wheels interlocked or staggered. Depth adjustment is made with a spring-loaded cam and pin with 11 positions in ¼" increments. A high point on the cam allows wheels to be locked up.

A weed guard on the inboard side of each wheel helps prevent weed wrap which can cause premature bearing failure.

GRANULAR CHEMICAL HOPPER AND DRIVE

WARNING

Agricultural chemicals can cause death or serious injury to persons, animals, and plants or seriously damage soil, equipment, or property. Read and follow all chemical and equipment manufacturers labels and instructions.

The granular chemical hopper has a 1.4 cubic feet capacity.

Make sure no foreign objects get into hopper when it is being filled. Replace hopper lids after filling to prevent accumulation of dirt and moisture.

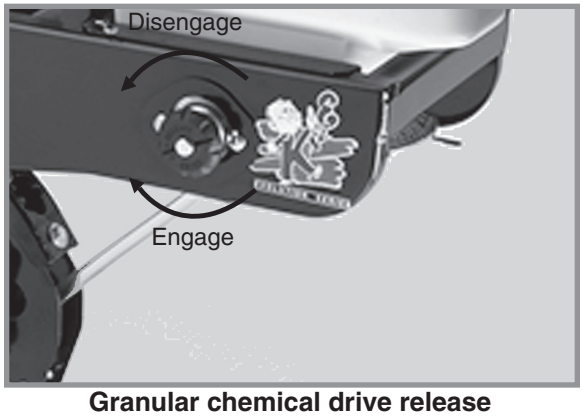
A metering gate on bottom of hopper regulates the application rate. See “Dry Insecticide and Dry Herbicide Application Rate Charts” in this manual. Calibrate using chemical manufacturers’ instructions.

Granular chemical hopper

Granular chemical clutch drive coupler and meter shaft can be disengaged and engaged by turning throwout knob at rear of hopper support panel.

Rotate knob ¼ turn counterclockwise to disengage and ¼ turn clockwise to engage.

Slotted holes in hopper support panel and clutch housing allow for alignment adjustment between clutch drive coupler and meter shaft.



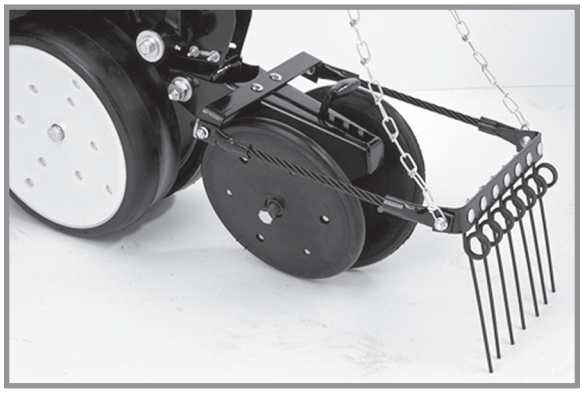
Granular chemical drive release

SPRING TOOTH INCORPORATOR

Spring tooth incorporator smooths soil behind row unit and incorporates granular chemicals.

Adjust two mounting chains on each spring tooth incorporator so there is approximately ⅛" slack in chain when unit is lowered to planting position.

NOTE: Spring tooth incorporator is not compatible with covering discs/single press wheel option.

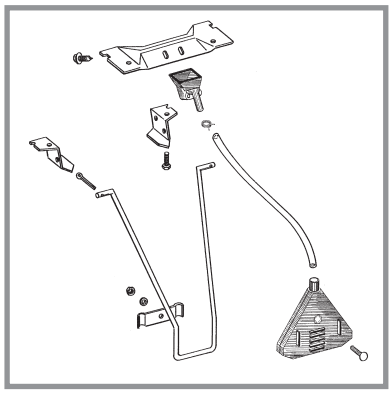


Spring tooth incorporator

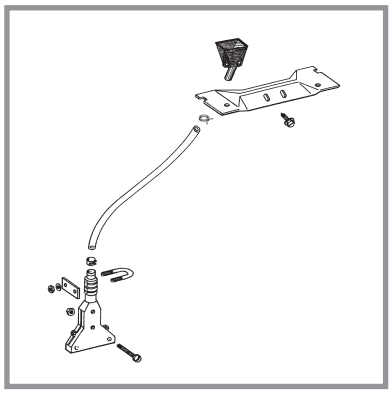
GRANULAR CHEMICAL BANDING OPTIONS

Granular chemical banding options allow 4½" slope-compensating banding, straight drop in-furrow placement or 14" rear banding.

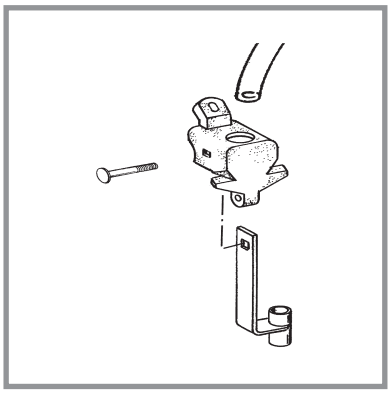
NOTE: Granular chemical rear bander is not compatible with covering discs/single press wheel option.



14" rear banding



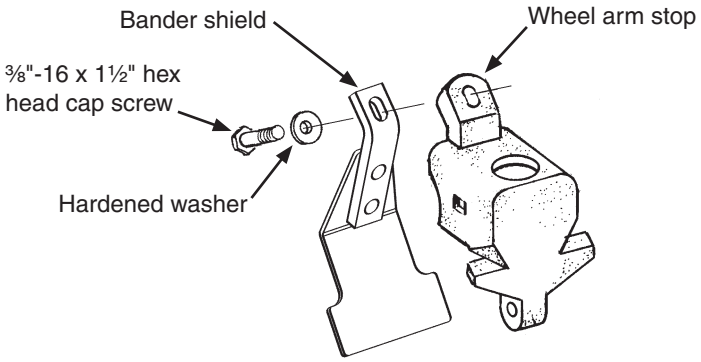
4½" slope-compensating bander



Straight drop in-furrow placement

GRANULAR CHEMICAL BANDER SHIELD

Optional granular chemical bander shield is installed on underside of wheel arm stop to shield crop residue from lodging in granular chemical bander.

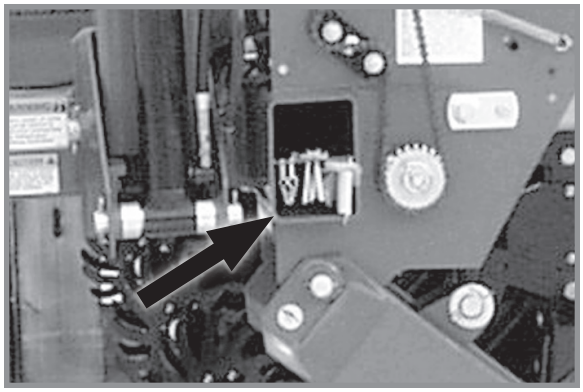


Granular chemical bander shield installation

CHAIN TENSION ADJUSTMENT

Drive chains have spring loaded idlers and are self-adjusting. Remove link to shorten chain if wear stretches chain and reduces spring tension. Check idler pivot points to make sure they rotate freely. See “Wrap Spring Wrench Assembly” in this section for additional information.

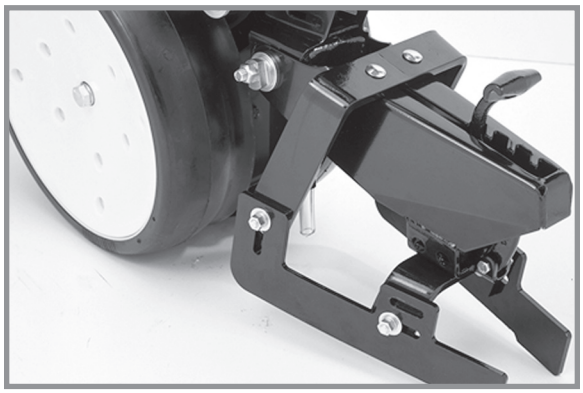
Additional chain links are stored inside planter frame.



Additional chain links

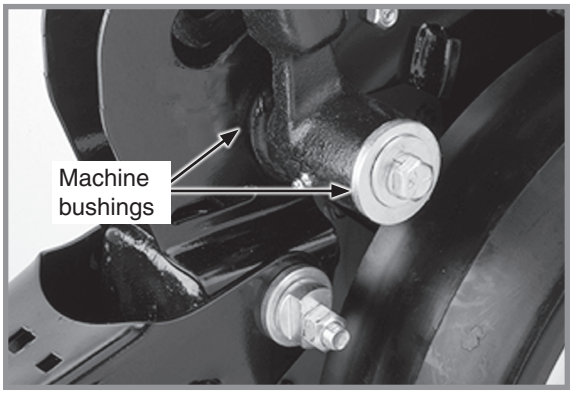
DRAG CLOSING ATTACHMENT

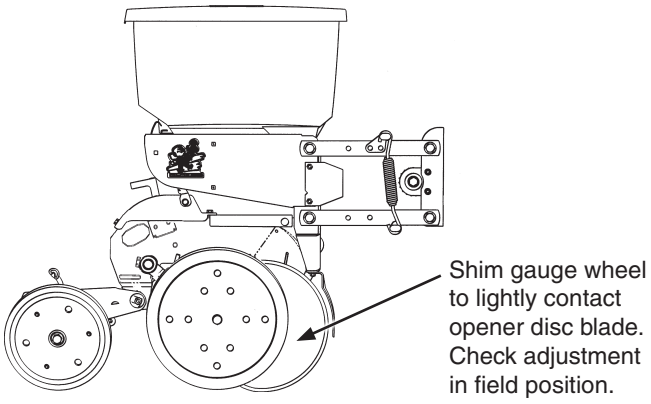
Inspect each drag closing attachment and replace any worn or broken parts before storing planter. Check for loose hardware and tighten as needed.



Drag Closing Attachment

GAUGE WHEEL ADJUSTMENT





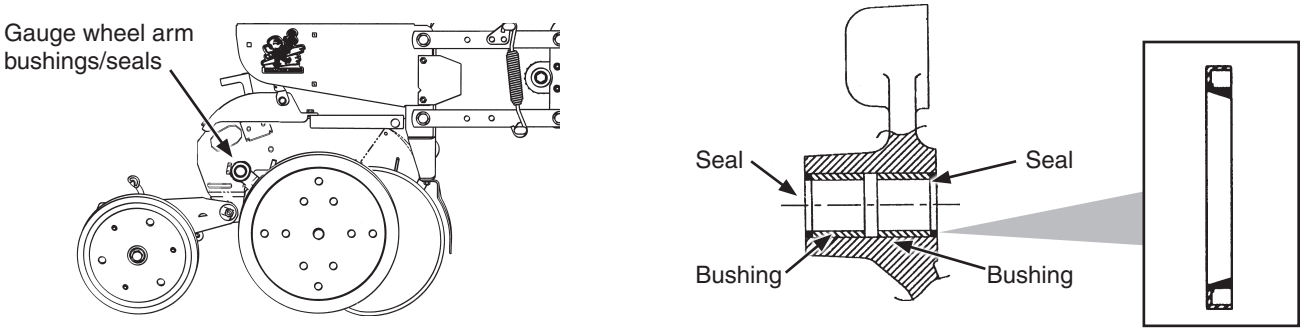
Gauge wheel adjustment

Gauge wheels should lightly contact opener blades to prevent accumulation of dirt or trash. Gauge wheels and opener blades should turn with only slight resistance.

Add or remove machine bushings between shank and gauge wheel arm to adjust clearance between gauge wheels and opener blades. Store remaining machine bushings between gauge wheel arm and flat washer on outer side of gauge wheel arm.

NOTE: It may be desirable to space gauge wheel further from blade when operating in sticky soils.

GAUGE WHEEL ARM BUSHING/SEAL REPLACEMENT



NOTE: Gauge Wheel Arm Bushing and Seal Driver Kit (G1K296) is available through your Kinze Dealer.

1. Remove gauge wheel from arm.
2. Remove gauge wheel arm from shank assembly.
3. Remove seal and bushing and discard. Clean and dry inner bore.
4. Drive/press replacement bushing inside bore of arm to a depth of .125" below flush.
5. Coat wiping edge of seal with grease.
6. Drive/press seal into place with lip to outside.

NOTE: Use extra care to protect the sealing lip during installation. Apply uniform pressure to assemble the seal into the bore of the arm. Never apply a direct hammer blow to the seal surface.

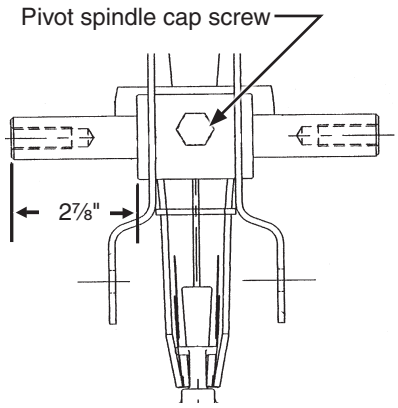
7. Inspect gauge wheel pivot spindle.
8. Reinstall gauge wheel arm assembly and gauge wheel.

NOTE: Use special machine bushing between gauge wheel arm and gauge wheel.

9. Shim for proper gauge wheel tire/disc blade clearance.
10. Lubricate with an SAE multipurpose grease.

GAUGE WHEEL ARM PIVOT SPINDLE REPLACEMENT

1. Remove gauge wheel and arm assemblies from shank assembly.
2. Remove ½" x ¾" cap screw that locks pivot spindle in place and remove spindle.
3. Install replacement spindle and position as shown. Exact centering is critical.
4. Install ½" x ¾" cap screw and torque to lock pivot spindle in place.
5. Install gauge wheel and arm assemblies. Shim for proper gauge wheel tire/disc blade clearance.

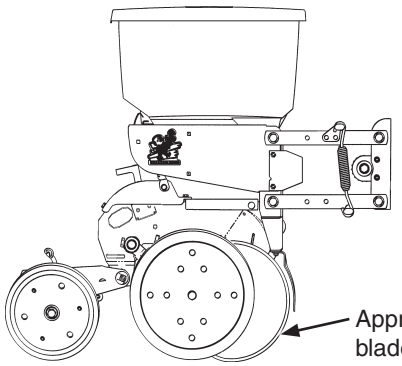


15" SEED OPENER DISC BLADE/BEARING ASSEMBLY

NOTICE

Excessive blade contact may result in premature disc opener bearing/hub failures and excessive wear on seed tube guard/inner scraper. When properly adjusted, if one blade is held in fixed position, opposite blade should rotate with less than 5 pounds force at outer edge of blade.

Maintain approximately 1" - 1½" of blade-to-blade contact to properly open and form seed trench. As blade diameter decreases due to wear, it is necessary to relocate machine bushings from inside to outside to maintain 1" - 1½" of contact.



NOTE: Replace blades If proper blade-to-blade contact cannot be maintained after relocating machine bushings or if blade diameter wears below 14½".

REPLACE DISC BLADE/BEARING ASSEMBLY

NOTE: Only bearing may need to be replaced if there is excessive endplay or if bearing sounds or feels rough when disc blade is rotated.

1. Remove gauge wheel, scraper, and bearing dust cap.

2. Remove cap screw, washer and disc blade/bearing assembly. Machine bushings between shank and disc blade are used to maintain approximate 1" - 1½" of blade-to-blade contact.

NOTICE

Left hand side of opener uses a left hand threaded cap screw. DO NOT OVER TIGHTEN. Damage to shank threads require replacement of row unit shank assembly.

3. Install machine bushing(s), new disc blade bearing assembly, washer and cap screw. Torque ⅝"-11 Grade 5 cap screw to 110 ft-lb (149.14 N-m).

NOTE: Replace disc blades only with disc blades of equal thickness.

4. Install bearing dust cap, scraper, and gauge wheel.

REPLACE BEARING ONLY

1. Remove gauge wheel, scraper, bearing cap, cap screw, washer and disc blade/bearing assembly.

2. Remove ¼" rivets from bearing housing to expose bearing.

3. Installing new bearing. install three evenly spaced ¼" cap screws into three of six holes in bearing housing to hold bearing and bearing housing in place. Install rivets in other three holes. Remove ¼" cap screws and install rivets in those three holes.

4. Reinstall disc blade/bearing assembly, washer and cap screw. Torque ⅝"-11 cap screw to 110 ft-lb (149.14 N-m).

5. Install bearing dust cap, scraper, and gauge wheel.

SEED TUBE GUARD/INNER SCRAPER

Seed tube guard protects seed tube and acts as inner scraper for seed opener disc blades.

Remove seed tube and check for wear. Excessive wear on seed tube indicates a worn seed tube guard. Replace seed tube guard if it measures ⅝" or less at lower end. A new seed tube guard measures approximately ⅞".

NOTE: No till planting or planting in hard ground conditions, especially when planter is not equipped with no till coulters, and/or excessive blade-to-blade contact increases seed tube guard wear and requires more frequent inspection and/or replacement.

Seed tube guard/inner scraper (Gauge wheel/seed opener disc blade removed

NOTICE

Over tightening hex socket head cap screws may damage shank threads and require replacement of shank. An excessively worn seed tube guard may allow blades to wear into row unit shank, also requiring replacement of shank.

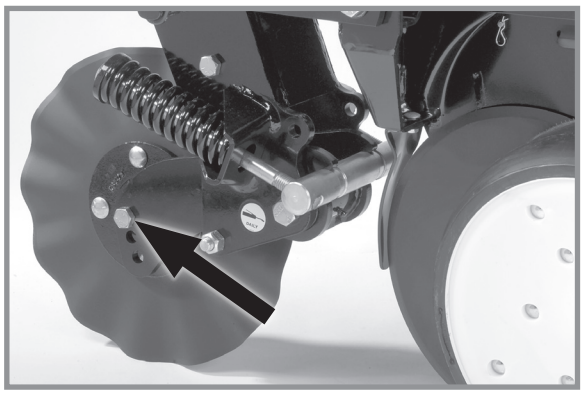
Remove seed tube and two hex socket head cap screws that attach seed tube guard. Hold replacement seed tube guard centered between seed opener disc blades. Install hex socket head cap screws. DO NOT TIGHTEN. Using a clamp or vise-grip, squeeze opener blades together in front of seed tube guard. Tighten seed tube guard retaining screws. Remove clamps. Distance between seed tube guard and opener blades should be equal on both sides. Reinstall seed tube.

FRAME MOUNTED COULTER

NOTE: Torque ⅝" spindle hardware to 120 ft-lb (162.7 N-m)

See “Frame Mounted Coulter” in Row Unit Operation section of this manual for depth and spring adjustment.

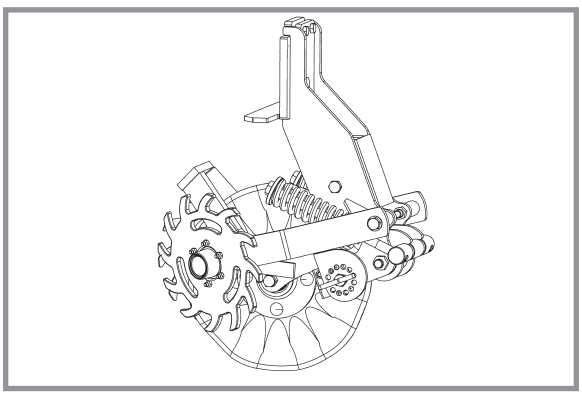
Replace 16" diameter coulter blade (1" fluted, 1" bubbled or ¾" fluted) when worn to 14½" (maximum allowable wear).



Frame mounted coulter spindle

RESIDUE WHEELS (FOR USE WITH FRAME MOUNTED COULTER)

Wheel hub is equipped with sealed bearings. Replace bearings if a bearing sounds or feels rough when wheel is rotated.



Frame mounted coulter residue wheels

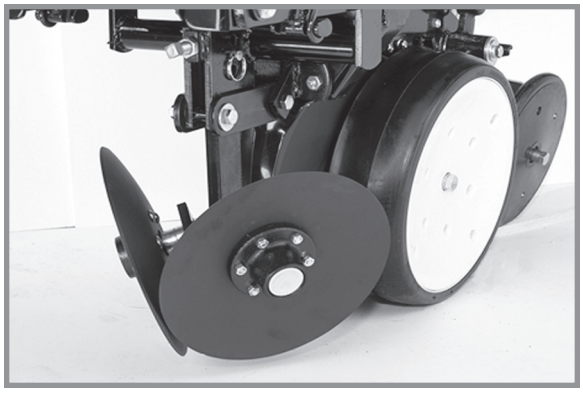
ROW UNIT MOUNTED DISC FURROWER

Lubricate bushings in support arm mounting bracket at frequency indicated in Lubrication of this section. Check each bolt for proper torque. If bolt is loose, it should be removed and bushing inspected for cracks and wear. Replace bushings as necessary.

NOTE: Use only hardened flat washers. Replace damaged flat washers with proper part. Torque bolts to 130 ft-lb (176.2 N-m).

Blade hubs are equipped with sealed bearings. Replace bearings if a bearing sounds or feels rough when wheel is rotated.

Replace solid or notched 12" diameter blades when worn to 11".

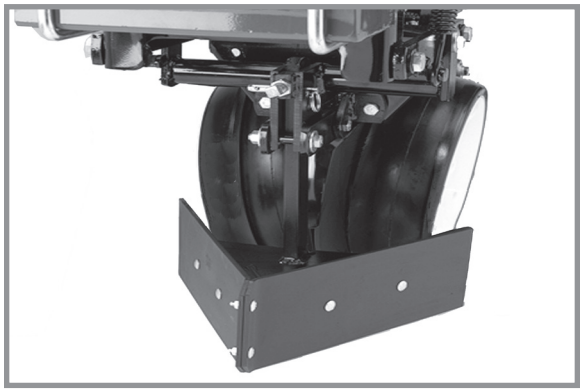


Row unit mounted disc furrower

ROW UNIT MOUNTED BED LEVELER

Lubricate bushings in mounting bracket and links at frequency indicated in Lubrication of this section. Check each bolt for proper torque. If bolt is loose, it should be removed and bushing inspected for cracks and wear. Replace bushing if necessary.

NOTE: Use only hardened flat washers. Replace damaged flat washers with proper part. Torque bolts to 130 ft-lb (176.2 N-m).



Row unit mounted bed leveler

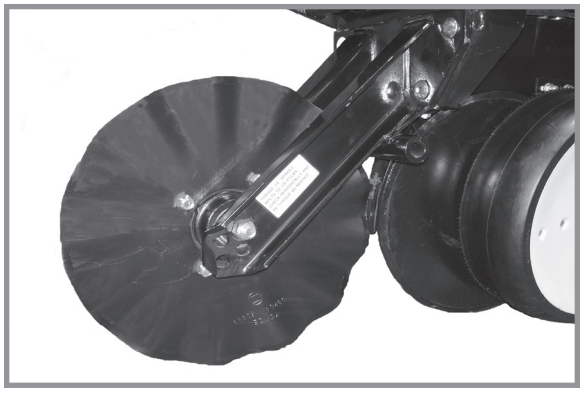
ROW UNIT MOUNTED NO TILL COULTER

Check nuts and hardware periodically for proper torque. Be sure coulter is positioned square with row unit and aligned in front of row unit disc opener.

NOTE: Torque ⅝" spindle hardware to 120 ft-lb (162 N-m).

Coulter blade can be adjusted to one of four settings. Initially blade is set in highest position. As blade wears it can be adjusted to one of three lower settings. See “Row Unit Mounted No Till Coulter” in Row Unit Operation section of this manual.

Replace 16" diameter coulter blade when worn to 14½".



Row unit mounted no till coulter

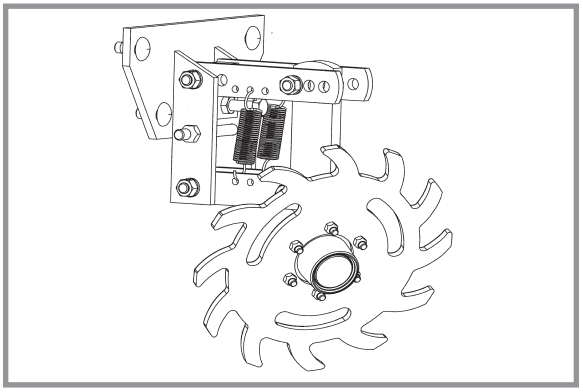
COULTER MOUNTED RESIDUE WHEELS

Wheel hubs are equipped with sealed bearings. If bearings sound or feel rough when wheel is rotated, replace them.

Coulter mounted residue wheels

ROW UNIT MOUNTED RESIDUE WHEEL

Wheel hub is equipped with sealed bearings. If a bearing sounds or feels rough when wheel is rotated, replace them.

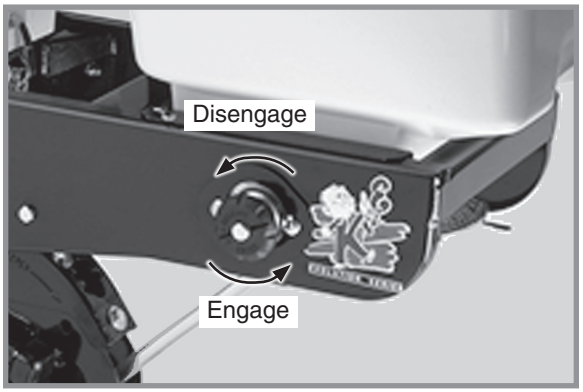


Row unit mounted residue wheels

GRANULAR CHEMICAL ATTACHMENT

Before storing planter, disengage granular chemical drive by rotating throwout knob ¼ turn counterclockwise. Remove drive chain and empty and clean all granular chemical hoppers. Clean drive chains and coat them with a rust preventive spray or submerge chains in oil. Inspect and replace worn or broken parts.

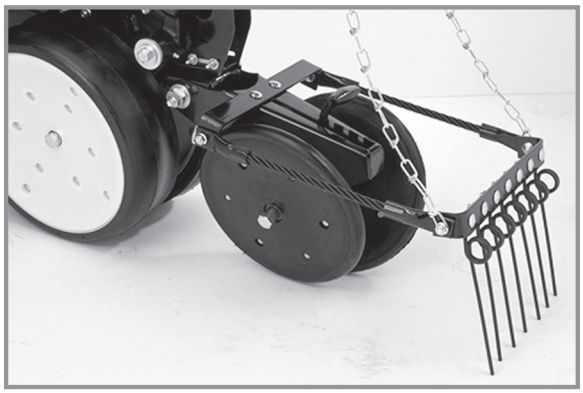
Install hoppers and chains. Check chain alignment.



Granular chemical throwout knob

SPRING TOOTH INCORPORATOR

Before storing planter, inspect each spring tooth incorporator and replace worn or broken parts. Check for loose hardware and tighten as needed.



Spring tooth incorporator

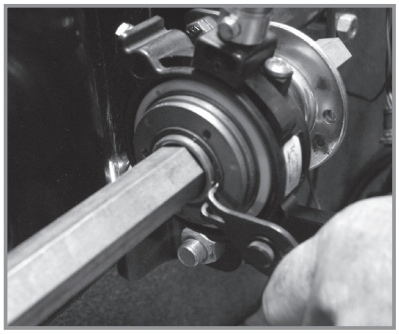
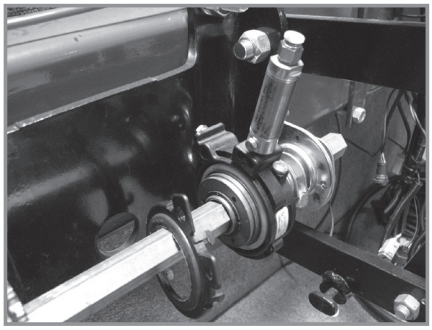
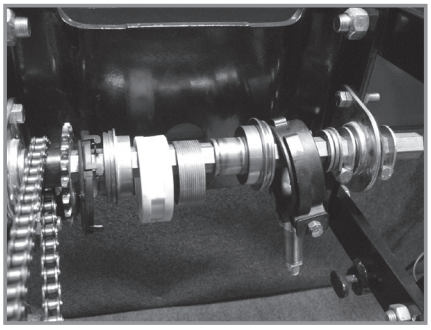
AIR CLUTCH CLEANING

(Yearly at end of planting season)

NOTE: If system is equipped with Pneumatic Down Pressure, air clutches must be removed from planter for cleaning. If system is not equipped with Pneumatic Down Pressure, air clutches can be disassembled and cleaned on planter.

At each row unit:

1. Remove meter assembly.
2. Press down collar on air fitting and remove air hose.
3. Loosen tension from chain and remove from air clutch sprocket.
4. Loosen lock clamp and slide clamp, washer, and air clutch away from chain.
5. Use a 5⁄16" wrench and remove sprocket from air clutch assembly.
6. Remove small Phillips-head screw from side of air clutch housing and remove housing cover.

7. Expand retaining ring and remove from assembly.
8. Remove and separate sprocket hub, ratchet gear, clutch spring, and hex bushing from air clutch housing.
9. Remove debris and dirt from clutch components. Clean parts with brake cleaner or equivalent cleaner.
10. Make sure parts are completely dry. Lubricate sprocket hub, ratchet gear, clutch spring, and hex bushing with silicone spray.
11. Reverse procedure to assemble air clutch assembly.
12. Place one drop of pneumatic or light-duty hydraulic oil in air cylinder fitting before attaching air line.
13. Install meter assembly.

AIR CLUTCH

PROBLEM	POSSIBLE CAUSE	SOLUTION
Clutches slip (effected row does not plant or skips).	Plunger in cylinder seized.	Remove air line and lubricated with pneumatic or light duty hydraulic oil.
	Worn Clutch.	Replace worn items.
	Dirt / debris buildup inside clutch.	Disassemble clean as needed. Reassemble.

CLOSING WHEEL

PROBLEM	POSSIBLE CAUSE	SOLUTION
Closing wheel(s) leave severe imprint in soil.	Too much closing wheel down pressure.	Adjust closing wheel pressure.
Closing wheel(s) not firming soil around seed.	Not enough closing wheel down pressure.	Adjust closing wheel pressure. Severe no till conditions may require use of cast iron closing wheels.
“V” closing wheel running on top of seed furrow.	Improper centering.	Align. See “V Closing Wheel Adjustment”.
Single closing wheel not directly over seed.	Improper centering.	Align. See “Covering Discs/Single Press Wheel Adjustment”.

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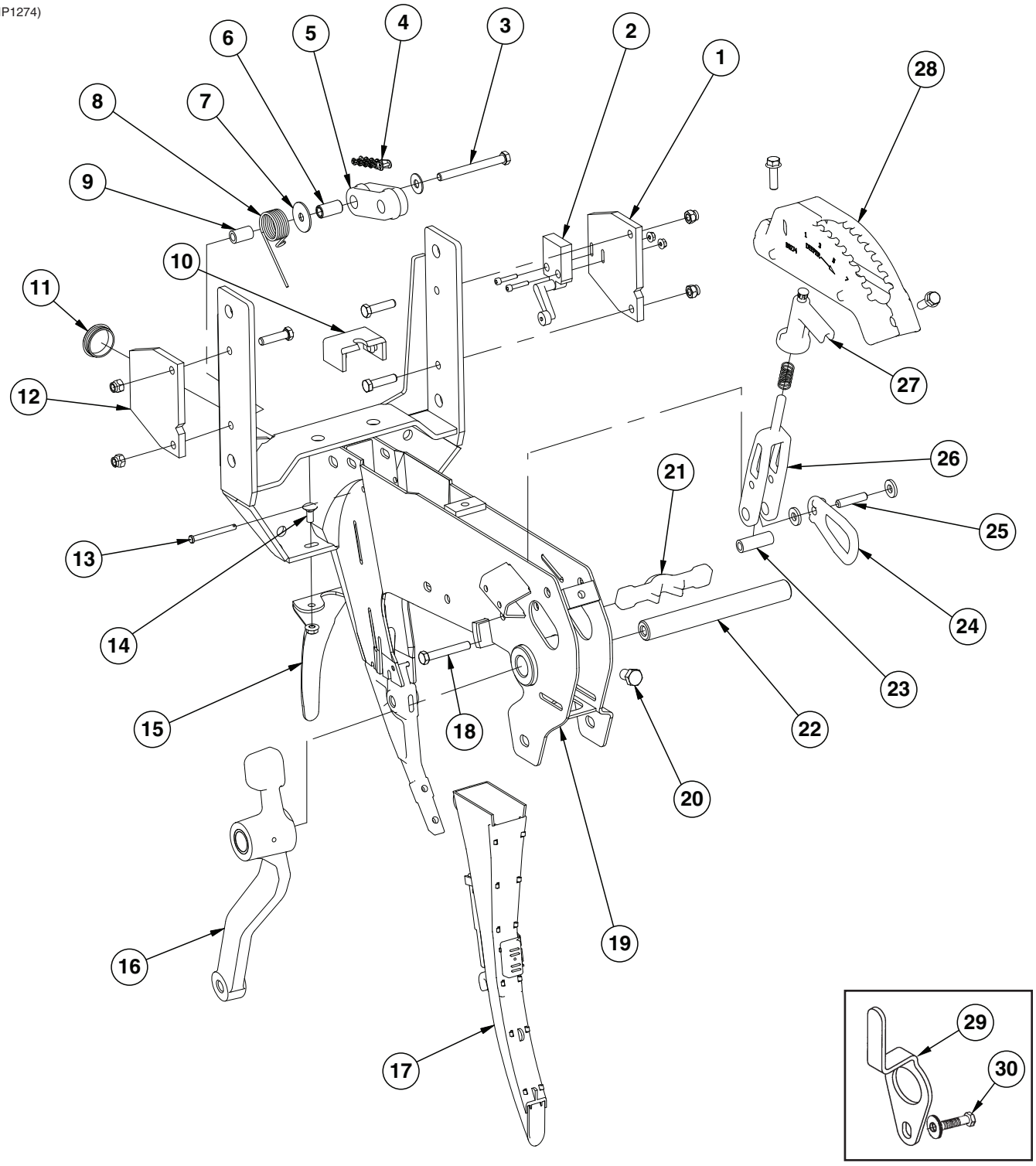
(IP1274)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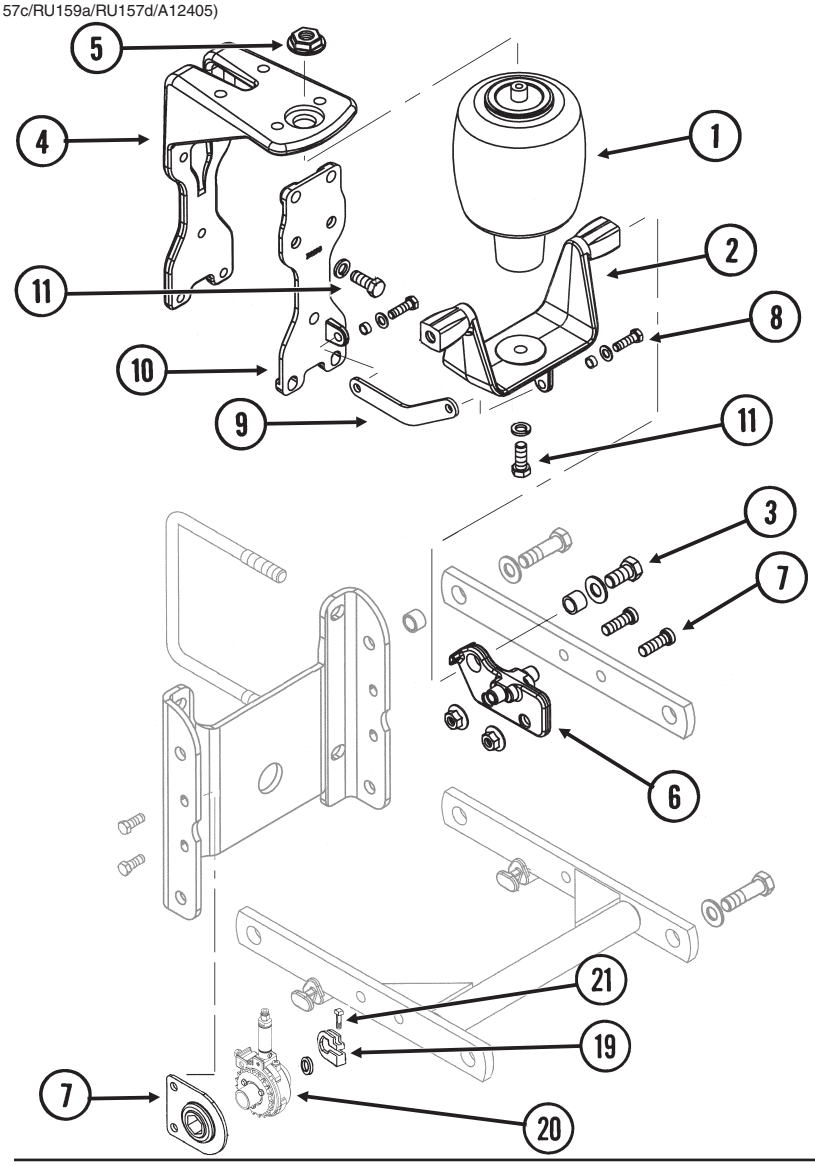
ITEM	PART NO.	QTY. (Per Row)	DESCRIPTION
1	GD19317	1	Implement Switch Bracket
	*G10003	2	Hex Head Cap Screw, 3/8"-16 x 1 1/2"
	*G10108	2	Lock Nut, 3/8"-16
2	GA13580	1	Limit Switch W/Cable
	G11298	2	Hex Slotted Head Cap Screw, #10-32 x 1"
	G11284	2	Serrated Flange Nut, #10-32
3	G10326	1	Hex Head Cap Screw, 3/8"-16 x 3 3/4"
	G11387	1	Flat Washer, 3/8" SAE
4	G3303-98	-	Chain, No. 41, 98 Pitch Including Connector Link (Mechanical)
	G3303-108	-	Chain, No. 41, 108 Pitch Including Connector Link (EdgeVac)
	G3303-16	-	Chain, No. 41, 16 Pitch Including Connector Link (Used W/Row Unit Extension Brackets)
	GR0196	-	Connector Link, No. 41
5	GD11962	1	Idler
6	GD1026	1	Sleeve, 1 3/16" Long
7	G10201	1	Special Washer, 3/8" x 1 1/2" O.D.
8	GD1065	1	Idler Spring
9	GD7318	1	Sleeve, 1" Long
10	GD16245	1	Sun Shade (Rubber)
11	GD11845	1	Dust Cap
12	GD10867	2	Stop
	G10003	1	Hex Head Cap Screw, 3/8"-16 x 1 1/2"
	G10108	2	Lock Nut, 3/8"-16
13	G10551	1	Clevis Pin, 1/4" x 2 1/2"
	G10669	1	Hair Pin Clip, No. 22
14	G10312	2	Carriage Bolt, 5/16"-18 x 3/4"
	G10620	2	Serrated Flange Nut, 5/16"-18
15	GD1033	1	Shield
16	---	1	See "Gauge Wheels" on page 34
17	---	-	See "KPM III Electronic Seed Monitor" on page <?> See "Planter Monitor Module (PMM)" on page <?>
18	G11008	1	Hex Head Cap Screw, 3/8"-24 x 2 1/2", Grade 8
	G11007	1	Lock Nut, 3/8"-24, Grade C
19	GA10157	1	Shank W/Gauge Wheel Pivot Spindle And Set Screw
20	G10438	1	Hex Head Cap Screw, 1/2"-13 x 3/4"
21	GB0265	1	Pivot Link, Depth Adjustment
22	GD11001	1	Spindle
23	GD11259	1	Sleeve, 3/8" I.D. x 5/8" O.D. x 1 25/32" Long
24	GB0285	1	Collar, Depth Adjustment
	G10207	2	Washer, 7/8" O.D. x 13/32" I.D. x .134" (If Applicable)
25	GD13361	1	Pin, 3/8" x 1 2/3"
26	GB0267	1	Lever, Depth Adjustment
	GD10993	1	Spring
27	GB0266	1	Handle, Depth Adjustment
	GD3612	1	Cap Plug
28	GB0274	1	Cover, Depth Adjustment
	G11015	2	Hex Washer Head Cap Screw, 3/8"-16 x 1 1/4"
29	GD17014	1	Hose Guide
30	G10047	1	Hex Head Cap Screw, 3/8"-16 x 1 3/4"
	G11387	2-3	Flat Washer, 3/8" SAE
	G10108	1	Lock Nut, 3/8"-16
A	GA13593	-	Implement Switch Assembly, (Items 1-2)

*Items not included in Implement Switch Assembly

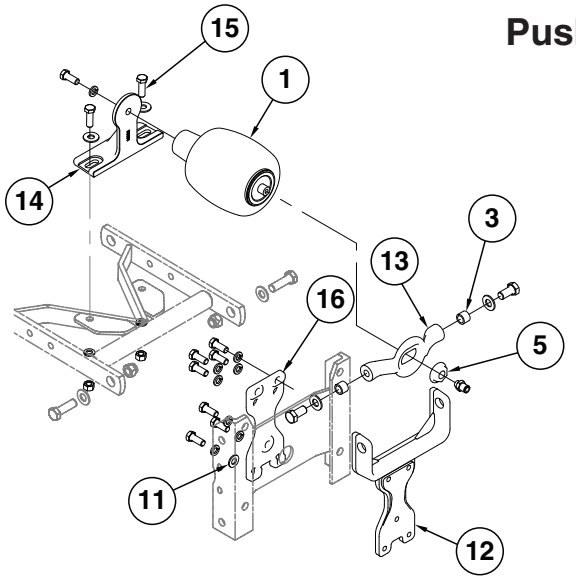
(RU157c/RU159a/RU157d/A12405)

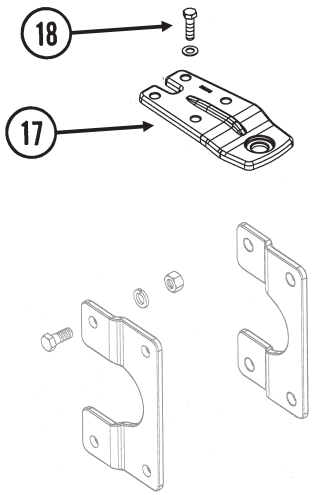
Pull Row Unit Shown



NOTE: Items that are not referenced on this page may be referenced on page 30.

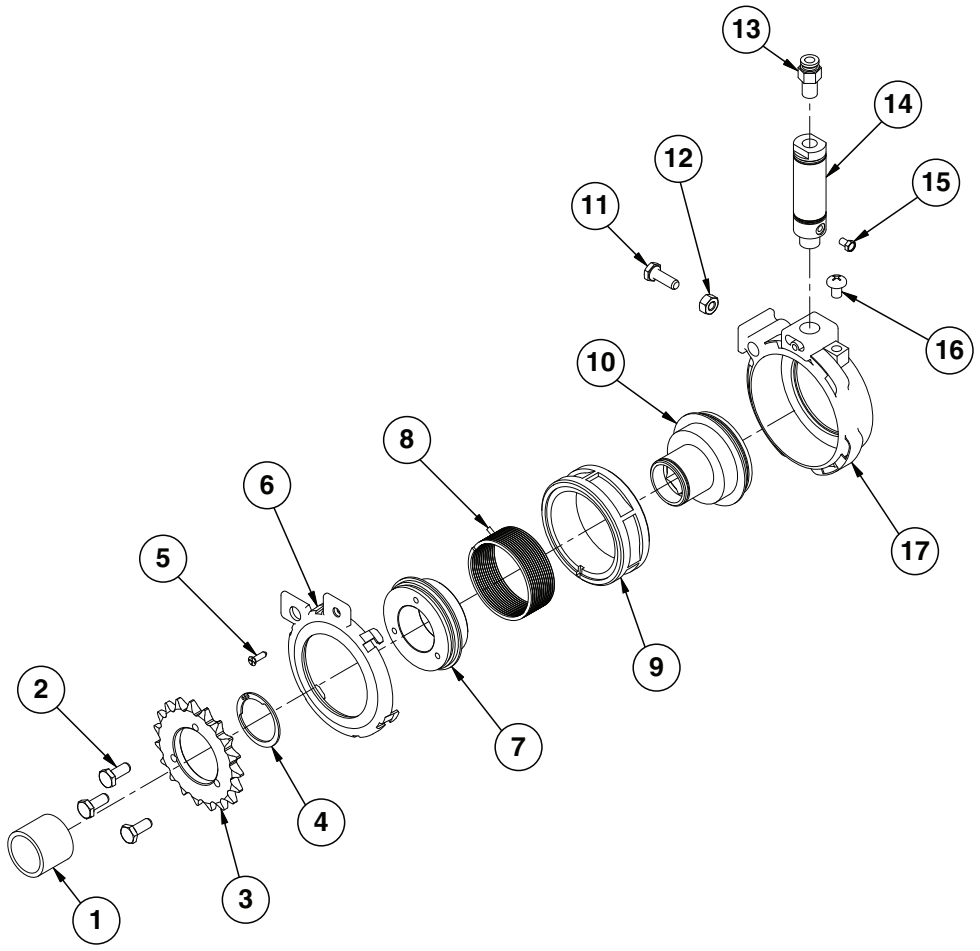
Push Row Unit Shown





ITEM	PART NO.	QTY. (Per Row)	DESCRIPTION
1	GA11982	1	Air Spring Assembly
	G10037	1	Hex Head Cap Screw, ½"-13 x 1¼"
	G10228	1	Lock Washer, ½"
2	GB0394	1	Saddle
3	G11018	2	Hex Head Cap Screw, ⅝"-18 x 1¼"
	G11391	2	Flat Washer, ⅝" SAE
	GD3180-30	2	Sleeve, ⅞" O.D. x ⅝" I.D. x 21⁄32"
4	GB0396	1	Head Mount
5	GB0397	1	Shoulder Nut, ¾"-16
	GD19092	-	Connector, ⅜" x ⅛" NPT
	GD18011	-	Elbow, ⅜" x ⅛" NPT Extended (used on outer push units)
6	GB0395	2	Bracket
7	GA2180	-	Hanger Bearing, ⅞" Hex Bore
8	G10004	2	Hex Head Cap Screw, ⅜"-16 x 1¼"
	G11387	2	Flat Washer, ⅜" SAE
	GD11963-04	2	Spacer, ¼"
	G10108	2	Lock Nut, ⅜"-16
9	GD17794	1	Link (not applicable with row unit extension brackets)
10	GB0393	1	Plate
11	G10037	7	Hex Head Cap Screw, ½"-13 x 1¼"
	G11389	2	Flat Washer, ½" SAE (Lower Two Holes Only)
	G10228	7	Lock Washer, ½"
12	GB0390	1	Yoke Mount
13	GB0392	1	Yoke
14	GB0391	1	Mount
15	G10017	2	Hex Head Cap Screw, ½"-13 x 1½"
	G11389	2	Flat Washer, ½" SAE
	G10228	2	Lock Washer, ½"
	G10102	2	Hex Nut, ½"-13
16	GB0389	1	Plate
17	GB0398	1	Extension
18	G10039	4	Hex Head Cap Screw, ½"-13 x 1¾"
	G11389	4	Flat Washer, ½" SAE
	G10111	4	Lock Nut, ½"-13
19	GD11045	-	Lock Clamp
20	---	-	See “Air Clutch, Pull Row Unit” on page 28
21	G10130	-	Square Head Machine Bolt, 5⁄16"-18 x 1¾"
	G10923	-	Flange Nut, 5⁄16"-18, No Serration

(IP1265)



ITEM	PART NO.	QTY. (Per Row)	DESCRIPTION
1	GD18891	1	Spacer, 1¼" O.D. x 1"
2	G11239	3	Hex Head Cap Screw, 10-32 x ½"
3	GR1831	1	Sprocket, 19 Tooth
4	G11295	1	Retaining Ring
5	G11243	1	Slotted Flat Head Machine Screw, No. 8-32 x ½", Stainless Steel
6	GR1894	1	Air Housing Cover
7	GR1829	1	Sprocket Hub
8	GR1813	1	Clutch Spring
9	GR1818	1	Ratchet Gear
10	GR1830	1	Hex Bushing
11	G10023	1	Hex Head Cap Screw, ¼"-20 x ¾"
12	G10103	1	Hex Nut, ¼"-20
13	GR1819	1	Push Connect, ⅛" NPT Male x ¼"
14	GR1896	1	Air Cylinder
15	GR1898	1	Filter
16	G11296	1	Pan Head Machine Screw, ¼"-20 x ¾" x ¾"
17	GR1895	1	Air Clutch Housing
A	GA12405	-	Air Clutch Assembly, (Items 1-17)

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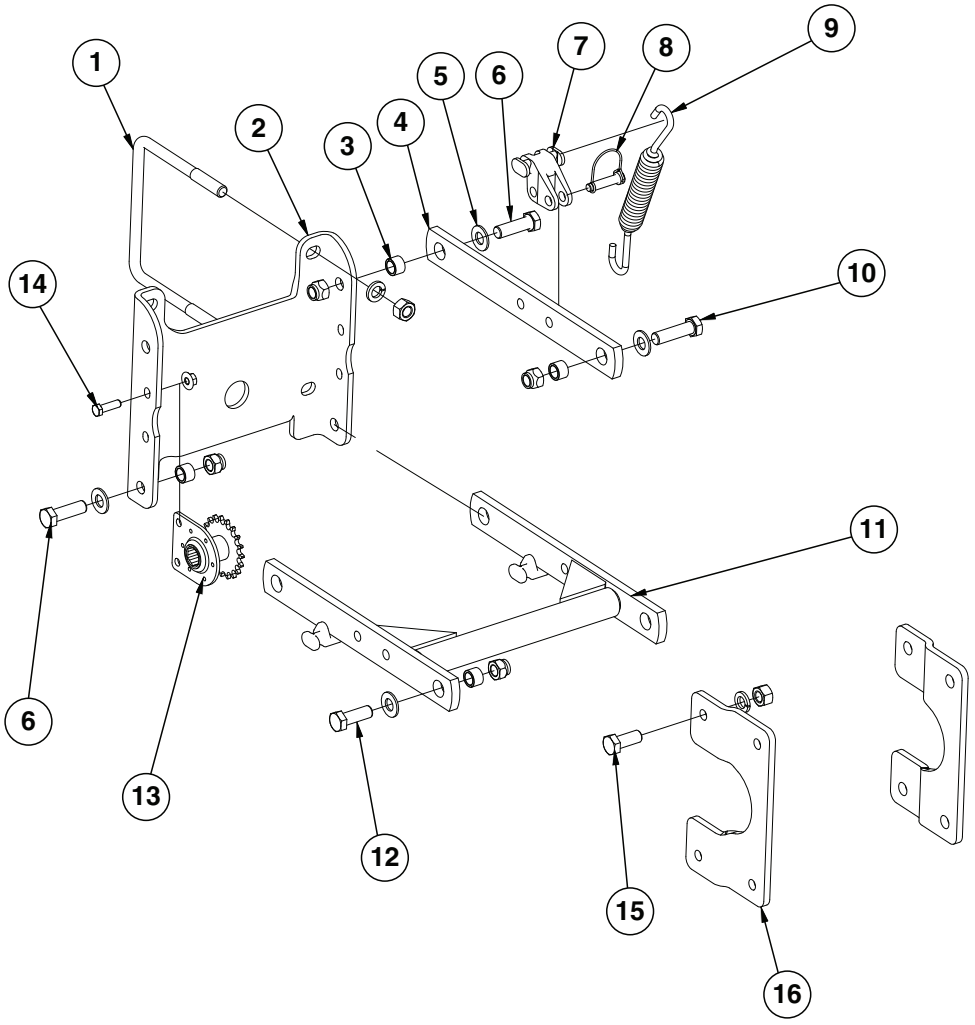
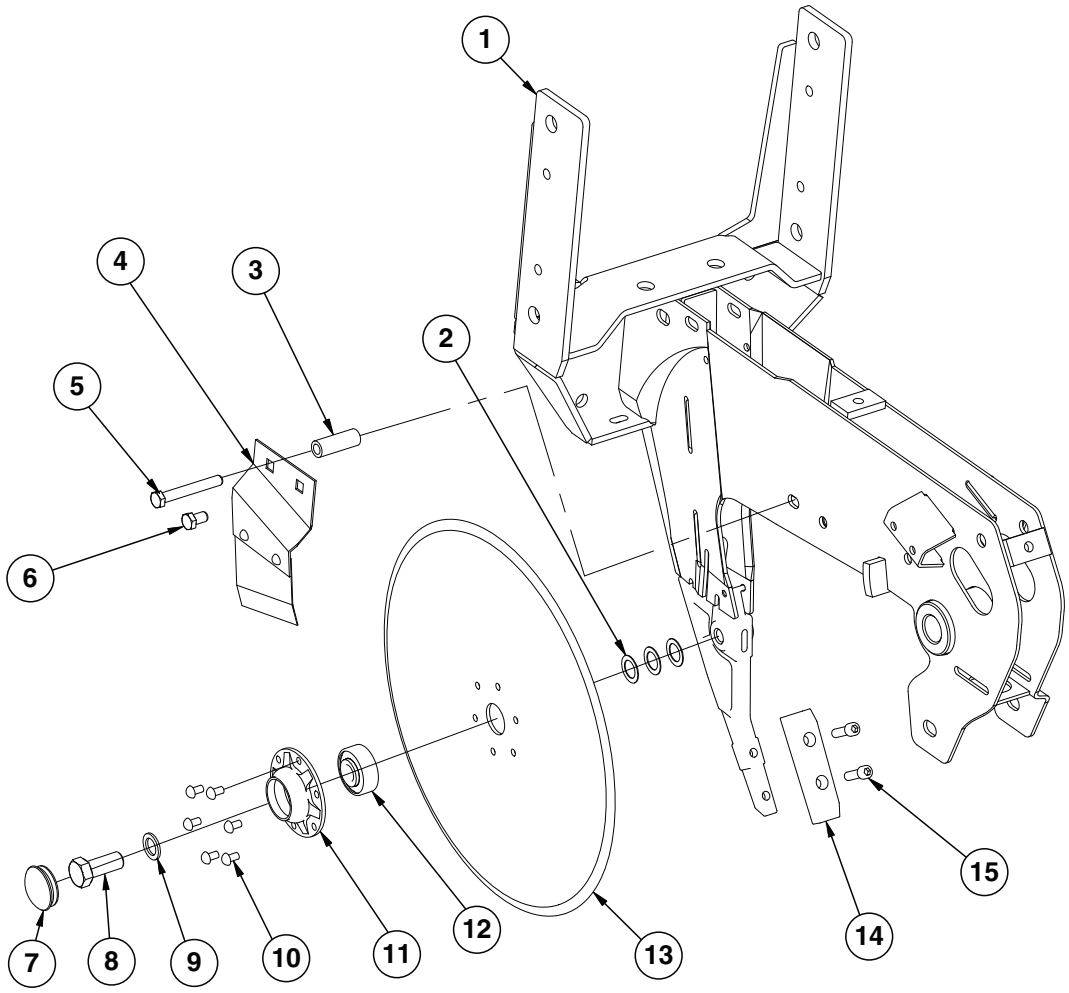
(IP1277)



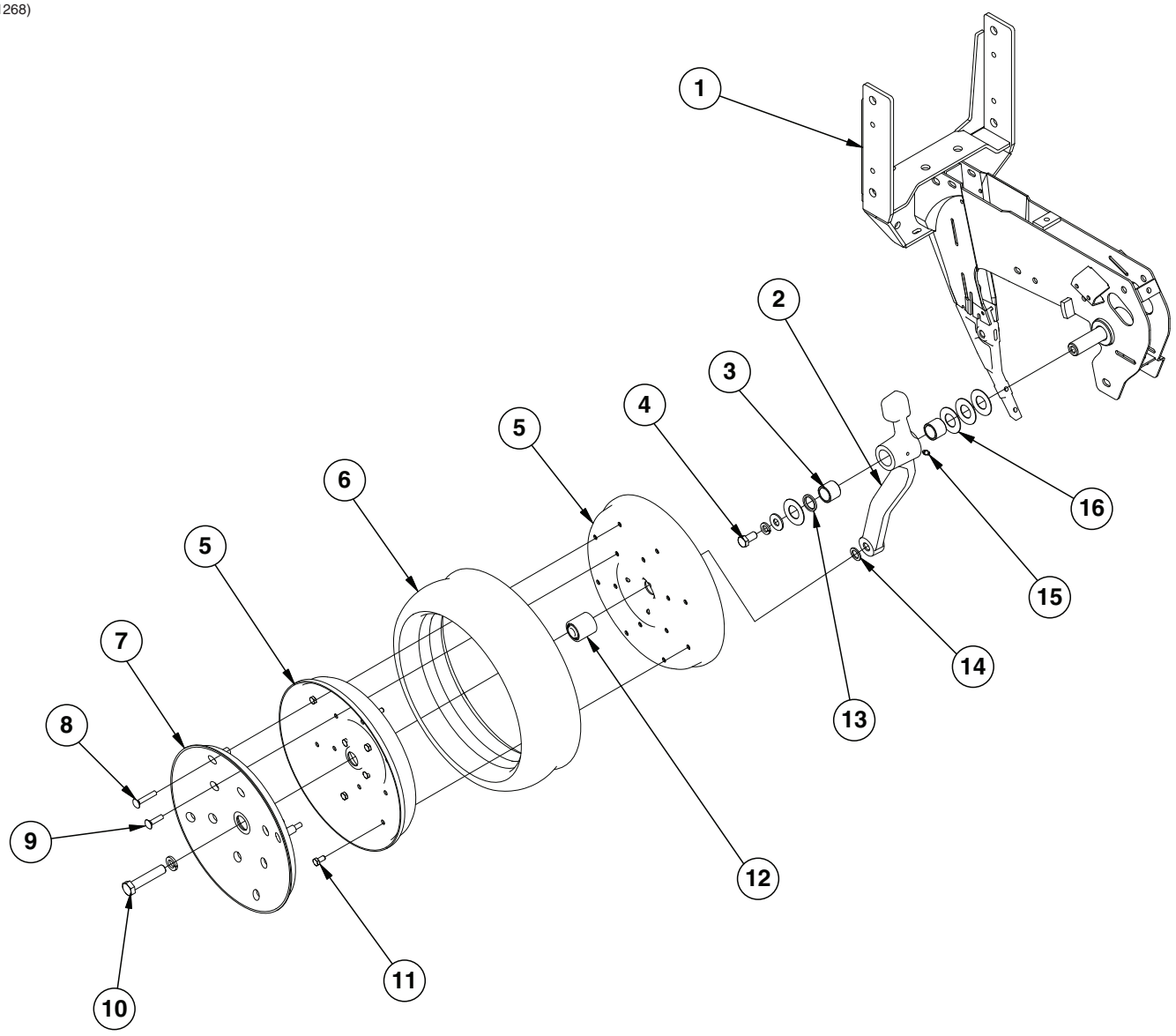
ITEM	PART NO.	QTY. (Per Row)	DESCRIPTION
1	GD1113	2	U-Bolt, 5" x 7" x 5/8"-11
	G10230	4	Lock Washer, 5/8"
	G10104	4	Hex Nut, 5/8"-11
2	GD10036	1	Mounting Support Plate
3	GB0218	8	Bushing, 21/32" I.D. x 7/8" O.D. x 19/32" Long
4	GD11422	2	Upper Parallel Arm
5	G11391	8	Flat Washer, 5/8" SAE
6	G10732	4	Hex Head Cap Screw, 5/8"-18 x 2"
	G10412	4	Lock Nut, 5/8"-18
7	GB0186	2	Spring Anchor
8	GD14217	2	Tab Lock Pin, 7/16" x 1½"
9	GD8249	4	Standard Down Pressure Spring
	GD21337	-	Heavy Duty Down Pressure Spring
10	G10752	2	Hex Head Cap Screw, 5/8"-18 x 2¼"
	G10412	2	Lock Nut, 5/8"-18
11	GA5651	1	Lower Parallel Arm
12	G10751	2	Hex Head Cap Screw, 5/8"-18 x 1¾"
	G10412	2	Lock Nut, 5/8"-18
13	GA1720	1	Bearing/Sprocket, 7/8" Hex Bore
14	G10004	2	Hex Head Cap Screw, 3/8"-16 x 1¼"
	G11091	2	Serrated Flange Nut, 3/8"-16
15	G10007	4	Hex Head Cap Screw, 5/8"-11 x 1½"
	G10230	4	Lock Washer, 5/8"
	G10104	4	Hex Nut, 5/8"-11
16	GB0366	2	Extension Bracket
A	G6325X	-	U-Bolt Package For 5" x 7" Toolbar, Includes: (2) GD1113, (4) G10230, (4) G10104

(IP1272)



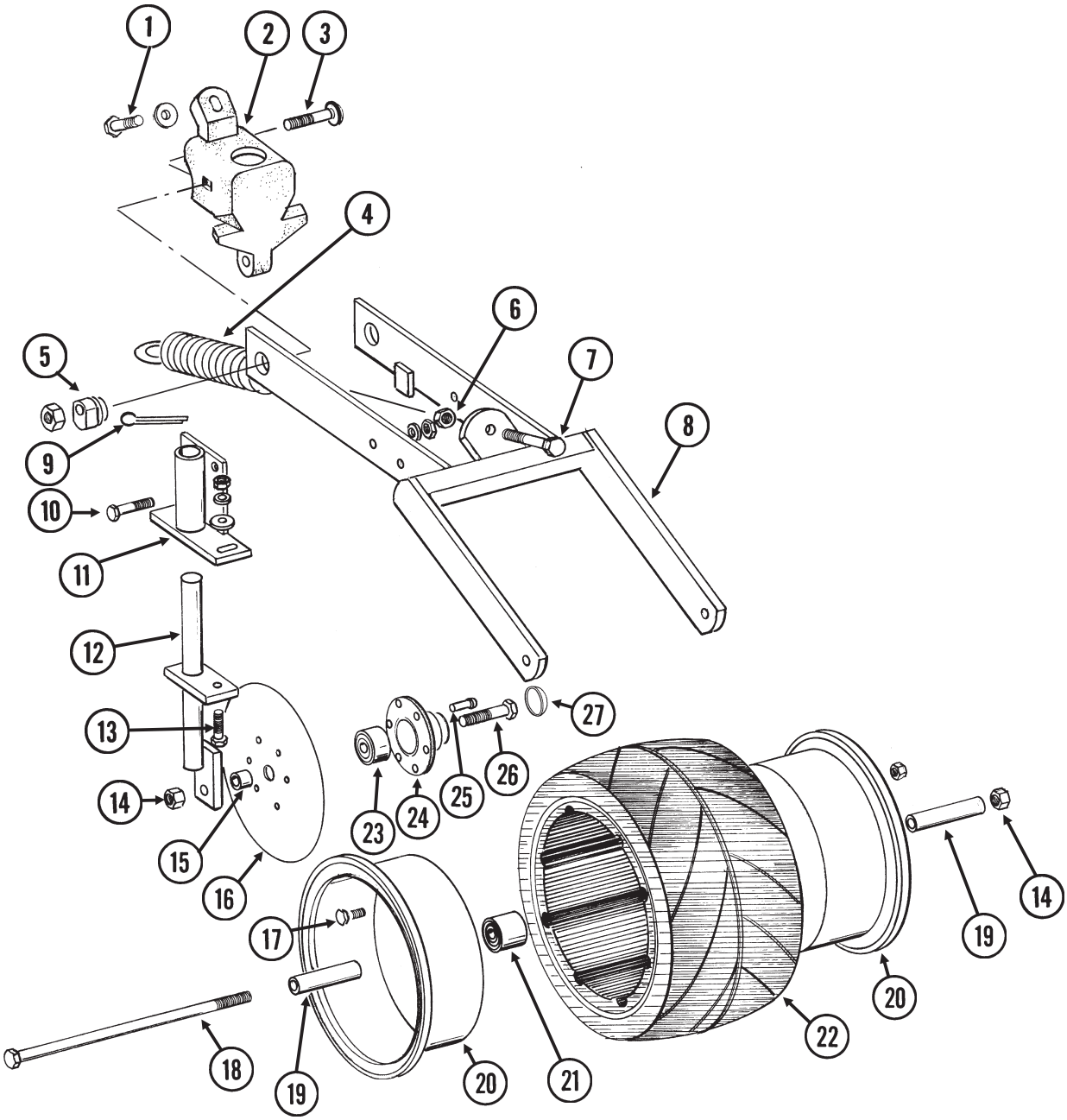
ITEM	PART NO.	QTY. (Per Row)	DESCRIPTION
1	---	-	See “Shank Assembly, Seed Tube, and Depth Adjustment” on page 24
2	G10213	-	Machine Bushing, ⅝" (.030" Thick)(As Required)
3	GD11259	1	Sleeve, ⅜" I.D. x ⅝" O.D. x 1²⁵⁄₃₂" Long
4	GA2012R GA2012L	1 -	Disc Scraper, R.H. Disc Scraper, L.H. (Shown)
5	G10325 G10622	1 1	Hex Head Cap Screw, ⅜"-16 x 2¾" Serrated Flange Nut, ⅜"-16
6	G10328 G10622	2 1	Hex Head Cap Screw, ⅜"-16 x ⅝" Serrated Flange Nut, ⅜"-16
7	GD11845	2	Dust Cap
8	GD11017	1	Special Hex Head Cap Screw, ⅝"-11 x 1½", L.H. Threads
9	G10204	2	Special Machine Bushing, ⅝" x 1" O.D.
10	G10427	12	Rivet, ¼" x ½"
11	GD10473	2	Bearing Housing
12	GA2014	2	Bearing
13	GD11306	2	Disc Blade, 3.5 mm x 15"
14	GB0301	1	Seed Tube Guard/Inner Scraper
15	G10912	2	Hex Socket Head Cap Screw, ⁵⁄₁₆"-18 x 1", Grade 8
A	GA8324	-	Disc Blade/Bearing Assembly, Less Dust Cap (Items 10-13)

(IP1268)



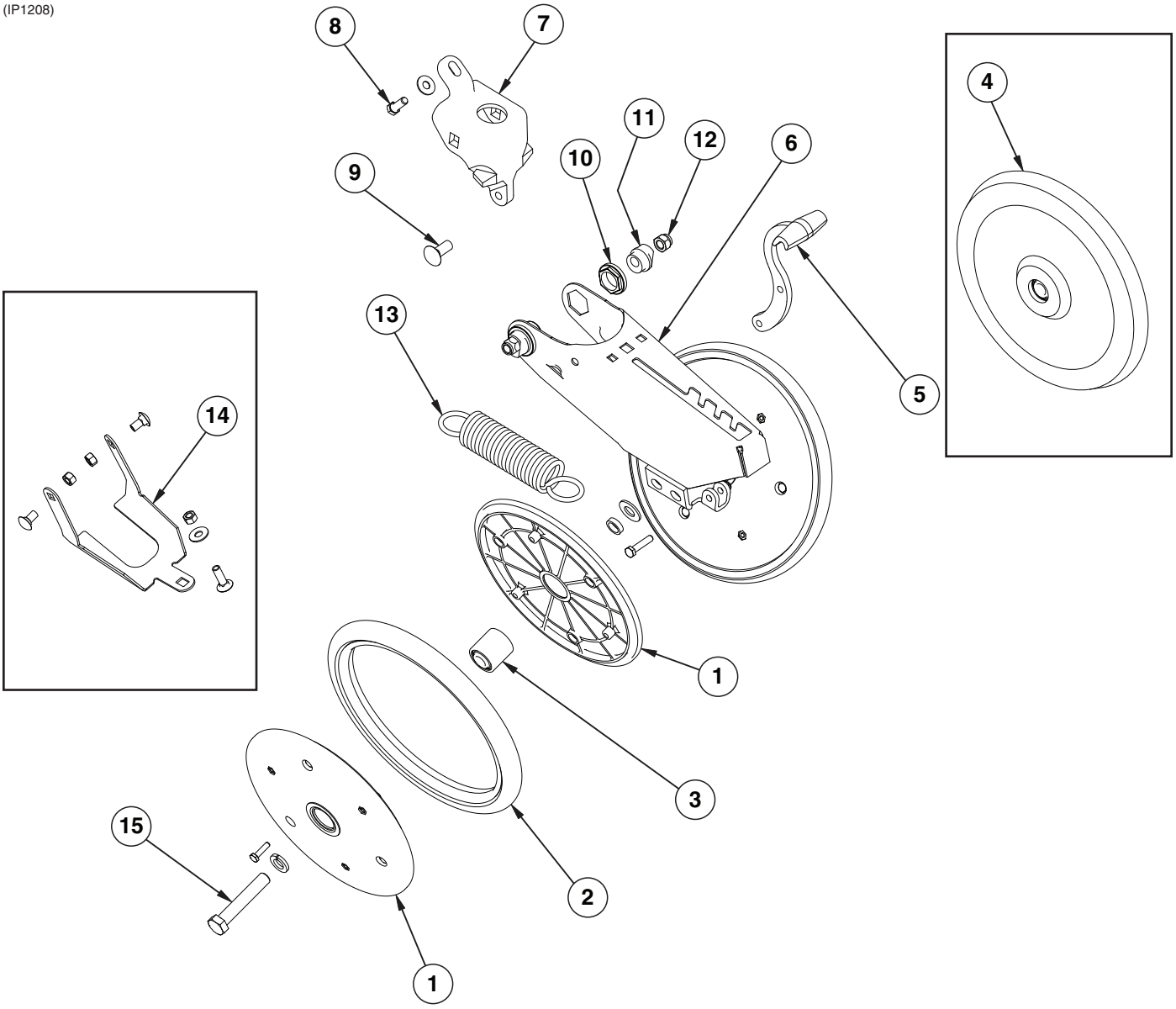
ITEM	PART NO.	QTY. (Per Row)	DESCRIPTION
1	---	-	See “Shank Assembly, Seed Tube, and Depth Adjustment” on page 24
2	GA7975 GA7976	1 1	Wheel Arm W/Grease Fitting, Bushings And Seals, L.H. (Shown) (Includes Items 3 and 13) Wheel Arm W/Grease Fitting, Bushings And Seals, R.H. (Includes Items 3 and 13)
3	GB0276	2	Bushing, 1" I.D. x 1¼" O.D. x 1" Long (Per Arm)
4	G10014 G10228 G10216	1 2 2	Hex Head Cap Screw, ½"-13 x 1" Lock Washer, ½" Washer, ½" USS
5	GD11423	4	Half Wheel
6	GD1086	2	Tire
7	GD11453	2	Cover
8	G10924 G10620	8 8	Carriage Bolt, 5⁄16"-18 x 1¾" Serrated Flange Nut, 5⁄16"-18
9	G10338 G10620	12 12	Carriage Bolt, 5⁄16"-18 x 1¼" Serrated Flange Nut, 5⁄16"-18
10	G10010	2	Hex Head Cap Screw, ⅝"-11 x 3"
11	G10018 G10109	14 14	Hex Head Cap Screw, 5⁄16"-18 x ⅝" Lock Nut, 5⁄16"-18, Grade 8
12	GA6171	2	Bearing
13	GD10991	2	Seal (Per Arm)
14	G10204	2	Special Machine Bushing, ⅝" x 1" O.D.
15	G10640	1	Grease Fitting, ¼"-28 (Per Arm)
16	G10940	-	Machine Bushing, 1" (.048" Thick)
A	GA7949	-	Gauge Wheel Complete (Items 5-9 And 11-12)
B	G1K296	-	Gauge Wheel Arm Bushing And Seal Driver Kit, Includes: (1) Seal Driver, (1) Bushing Driver, (1) Instruction

RUA054/RUB026(RU94d)



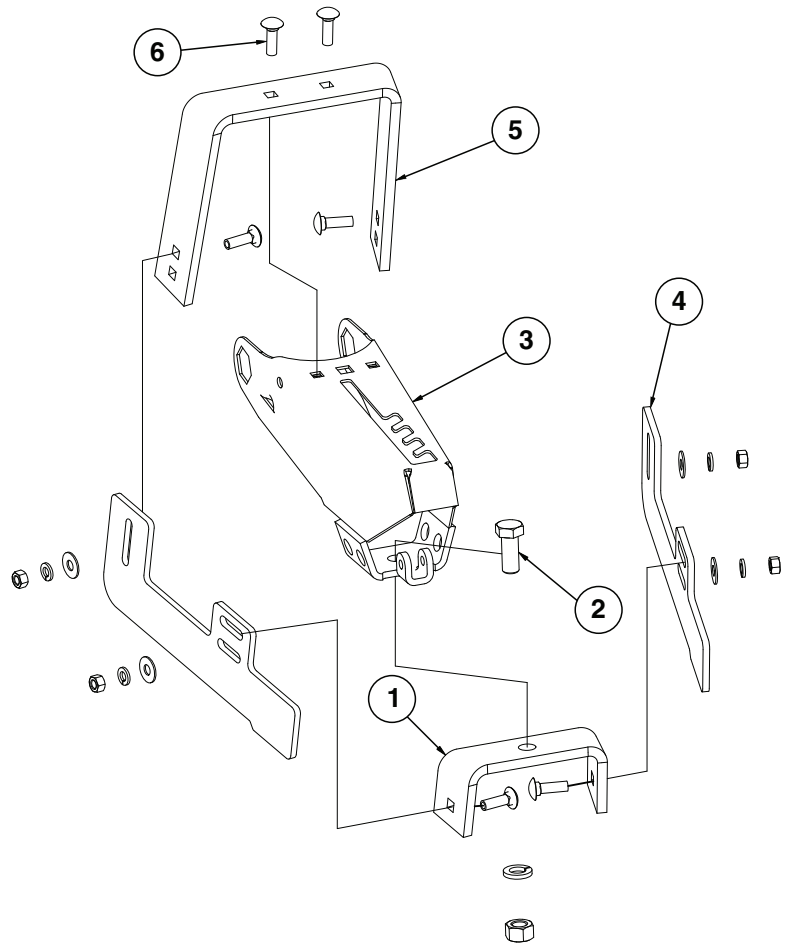
ITEM	PART NO.	QTY. (Per Row)	DESCRIPTION
1	G10001	1	Hex Head Cap Screw, ⅜"-16 x 1"
	G11387	1	Flat Washer, ⅜" SAE
2	GB0268	1	Wheel Arm Stop
3	G10801	2	Carriage Bolt, ½"-13 x 2¼"
	G10315	-	Carriage Bolt, ½"-13 x 2½" (Used W/Straight Drop In-Furrow Granular Chemical Bracket)
	G10102	2	Hex Nut, ½"-13
4	GA2054	1	Spring
5	GB0239	2	Eccentric Bushing
6	G10102	1	Hex Nut, ½"-13
7	G10015	1	Adjusting Bolt, ½"-13 x 5"
8	GA6619	1	Mounting Arm
9	G10463	2	Cotter Pin, ¼" x 1 ½"
10	G10171	4	Hex Head Cap Screw, 5⁄16"-18 x 1¼"
	G10232	4	Lock Washer, 5⁄16"
	G10106	4	Hex Nut, 5⁄16"-18
11	GA6620	2	Bracket
12	GA6618	2	Mount
13	G10303	2	Carriage Bolt, 5⁄16"-18 x 1"
	G11386	2	Flat Washer, 5⁄16" SAE
	G10232	2	Lock Washer, 5⁄16"
	G10106	2	Hex Nut, 5⁄16"-18
14	G10107	3	Lock Nut, ⅝"-11
15	GD1109	2	Bushing, 41⁄64" I.D. x ⅞" O.D. x ¼" Long
16	GD9290	2	Disc Blade, 8"
17	G10018	7	Hex Head Cap Screw, 5⁄16"-18 x ⅝"
	G10109	7	Lock Nut, 5⁄16"-18, Grade 8
18	G10152	1	Hex Head Cap Screw, ⅝"-11 x 9"
19	GD3180-12	2	Sleeve, ⅝" I.D. x ⅞" O.D. x 2⅞" Long
20	GD9562	2	Half Wheel
21	GA6171	1	Bearing
22	GD9305	1	Tire
23	GA2014	2	Bearing
24	GD10473	2	Bearing Housing
25	G10427	12	Rivet, ¼" x ½"
26	G10006	2	Hex Head Cap Screw, ⅝"-11 x 2¼"
27	GD11845	2	Dust Cap
A	GA6733	-	Single Press Wheel Complete W/Bearing (Items 17 And 20-22)
B	GA6801	-	Covering Disc Blade Complete W/Bearing (Items 16 And 23-25)

(IP1208)



ITEM	PART NO.	QTY. (Per Row)	DESCRIPTION
1	GD9120	4	Nylon Half Wheel
	G10064	12	Hex Head Cap Screw, ¼"-20 x 1"
2	GD1085	2	Rubber Tire, 1" x 12"
3	GA6171	2	Bearing
4	GA6597	1	Cast Iron Closing Wheel W/Bearing
	GA6171	1	Bearing
5	GB0254	1	Lever
	G10133	1	Hex Head Cap Screw, 5⁄16"-18 x 1½"
	G10109	1	Lock Nut, 5⁄16"-18, Grade 8
6	GA8322	1	Arm
7	GB0268	1	Wheel Arm Mount
8	G10001	1	Hex Head Cap Screw, ⅜"-16 x 1"
	G11387	2	Flat Washer, ⅜" SAE
9	G11419	2	Carriage Bolt, ½"-13 x 2¼"
	G10315	-	Carriage Bolt, ½"-13 x 2½" (Used W/Straight Drop In-Furrow Granular Chemical Bracket)
	G11387	-	Flat Washer, ⅜" SAE
10	GB0282	2	Stepped Bushing
11	GB0239	2	Eccentric Bushing
12	G10111	2	Lock Nut, ½"-13
13	GD8460	1	Spring
14	G1K345	-	Closing Wheel Shield Kit W/Hardware and Instruction
	GD14065	1	Closing Wheel Shield
	G10599	1	Carriage Bolt, ⅜"-16 x 1¼"
	G10308	2	Carriage Bolt, ⅜"-16 x ¾"
	G10101	3	Hex Nut, ⅜"-16
15	G10013	2	Hex Head Cap Screw, ⅝"-11 x 3½"
	G11391	2	Flat Washer, ⅝" SAE
	GD1109	2	Bushing, 41⁄64" I.D. x ⅞" O.D. x ¼" Long
	G10230	2	Lock Washer, ⅝"
	G10107	2	Lock Nut, ⅝"-11
A	GA6434	-	Rubber Closing Wheel Complete W/Bearing (Items 1-3)

(IP1202)



ITEM	PART NO.	QTY. (Per Row)	DESCRIPTION
1	GD11509	1	Rear Bracket
2	G10007	1	Hex Head Cap Screw, ⅝"-11 x 1½"
	G10230	1	Lock Washer, ⅝"
	G10104	1	Hex Nut, ⅝"-11
3	GA8322	1	Arm
4	GD11313	2	Blade
5	GD11508	1	Front Bracket
6	G10599	6	Carriage Bolt, ⅜"-16 x 1¼"
	G10229	6	Lock Washer, ⅜"
	G11387	6	Flat Washer, ⅜" SAE
	G10101	6	Hex Nut, ⅜"-16
A	G7566X	-	Drag Closing Attachment Complete (Items 1-6)

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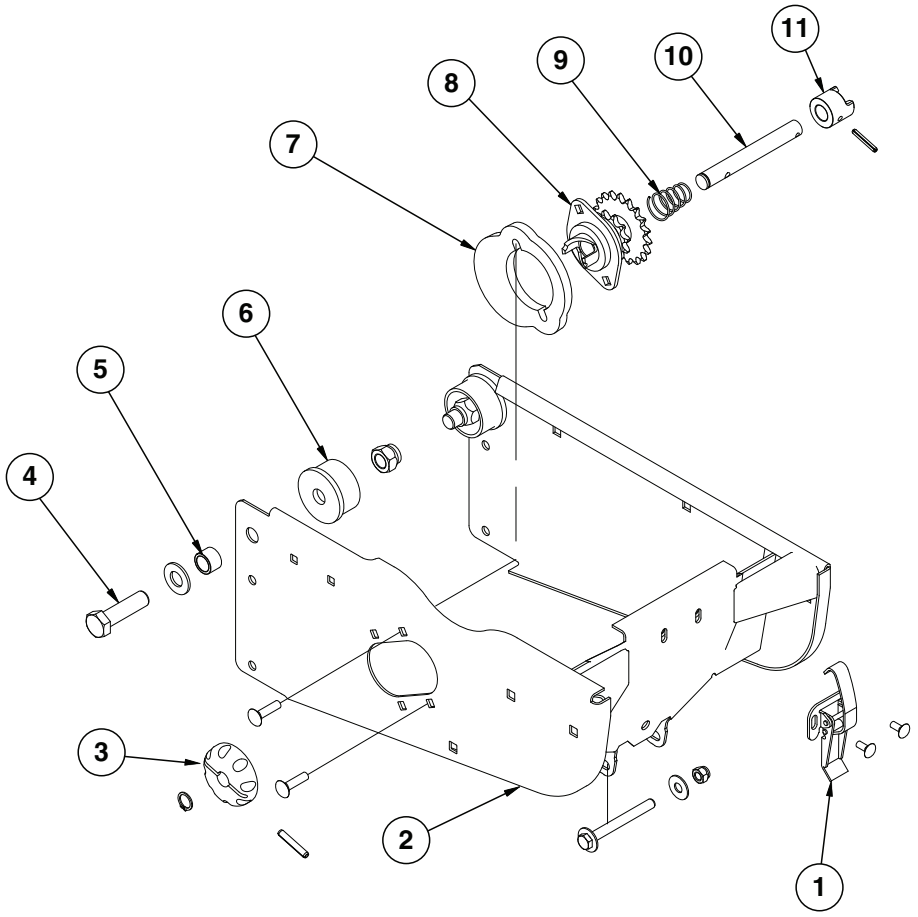
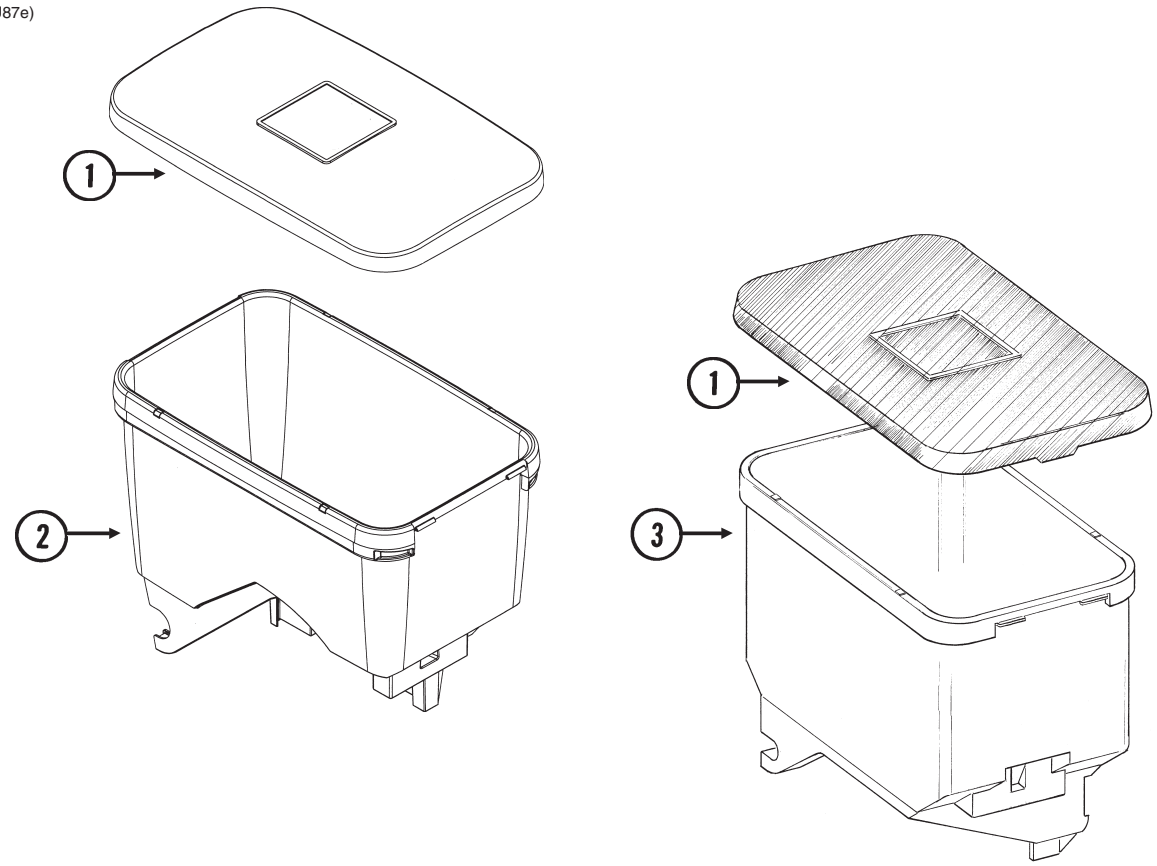
(IP1209)



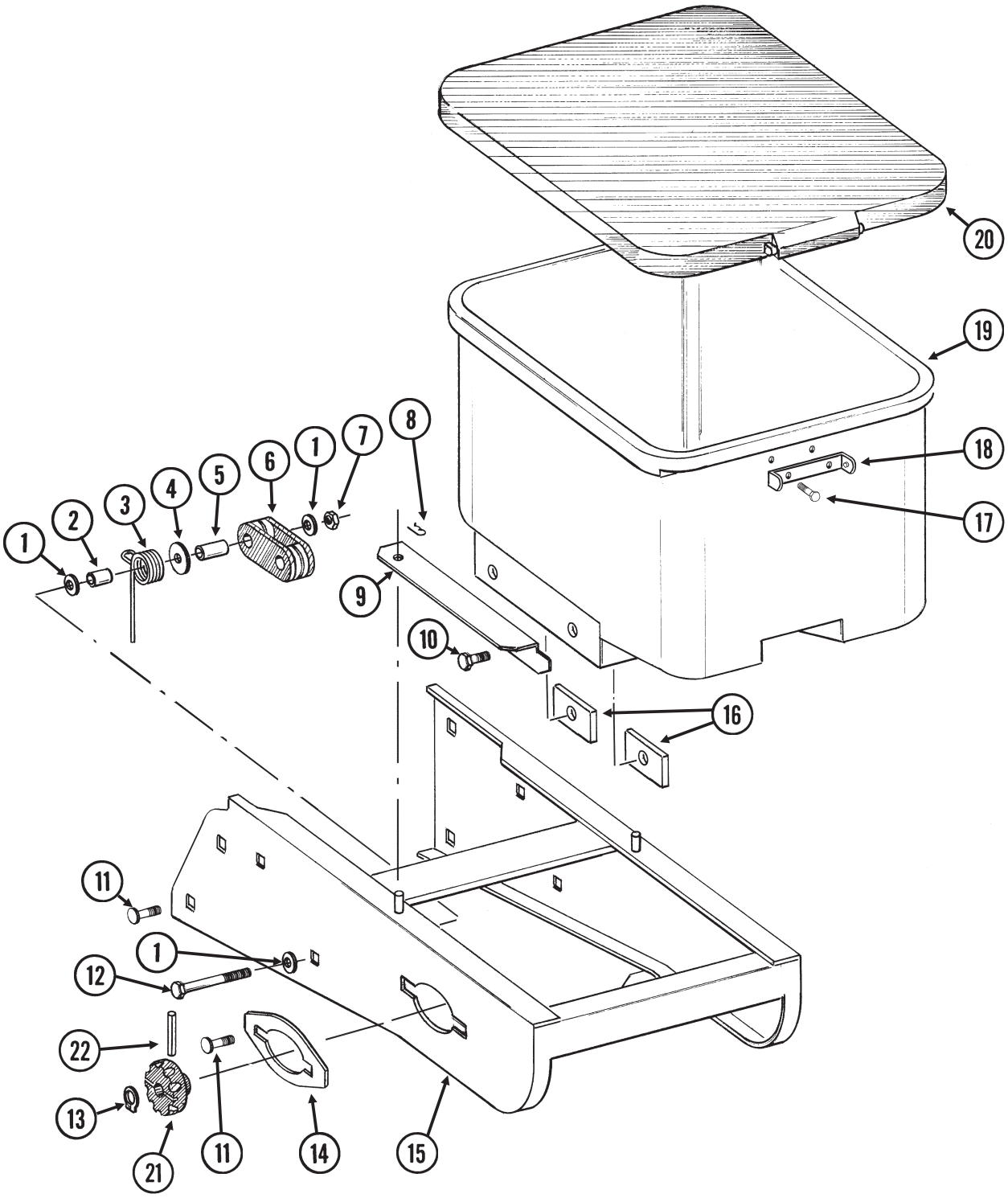
ITEM	PART NO.	QTY. (Per Row)	DESCRIPTION
1	GA2007	1	Hopper Hold Down Latch
	G10621	2	Serrated Flange Nut, ¼"-20
	G10309	2	Carriage Bolt, ¼"-20 x ⅝", Grade 2
2	GA10155	1	Hopper Support
	G10061	1	Hex Head Cap Screw, ⅜"-16 x 3½"
	G11387	2	Flat Washer, ⅜" SAE
	G10108	1	Lock Nut, ⅜"-16
3	GD11239	1	Knob
	G10602	1	Spring Pin, ¼" x 1½"
	G10567	1	External Retaining Ring, ⅝"
4	G10752	2	Hex Head Cap Screw, ⅝"-18 x 2¼"
	G11391	2	Flat Washer, ⅝" SAE
	G10412	2	Lock Nut, ⅝"-18
5	GB0218	2	Bushing, 21/32" I.D. x ⅞" O.D. x 19/32" Long
6	GB0314	2	Hopper Mount
7	GB0331	1	Clutch Adapter Plate
	G10620	2	Serrated Flange Nut, 5/16"-18
	G10338	2	Carriage Bolt, 5/16"-18 x 1¼"
8	GA10137	1	Double Sprocket And Bearing, Drive Clutch, 11/19 Tooth (Mechanical)
	GA12143	1	Double Sprocket And Bearing, Drive Clutch, 11/28 Tooth (EdgeVac)
9	GD11413	1	Spring
10	GD15747	1	Shaft
11	GB0278	1	Coupler
	G10546	1	Spring Pin, 3/16" x 1¼"
A	GA12144	-	Meter Drive Assembly, 11/28 Tooth (Items 3 And 8-11) (EdgeVac Shown)
B	GA10151	-	Meter Drive Assembly Complete, 11/19 Tooth (Items 3 And 8-11)

(METR12/RU87e)



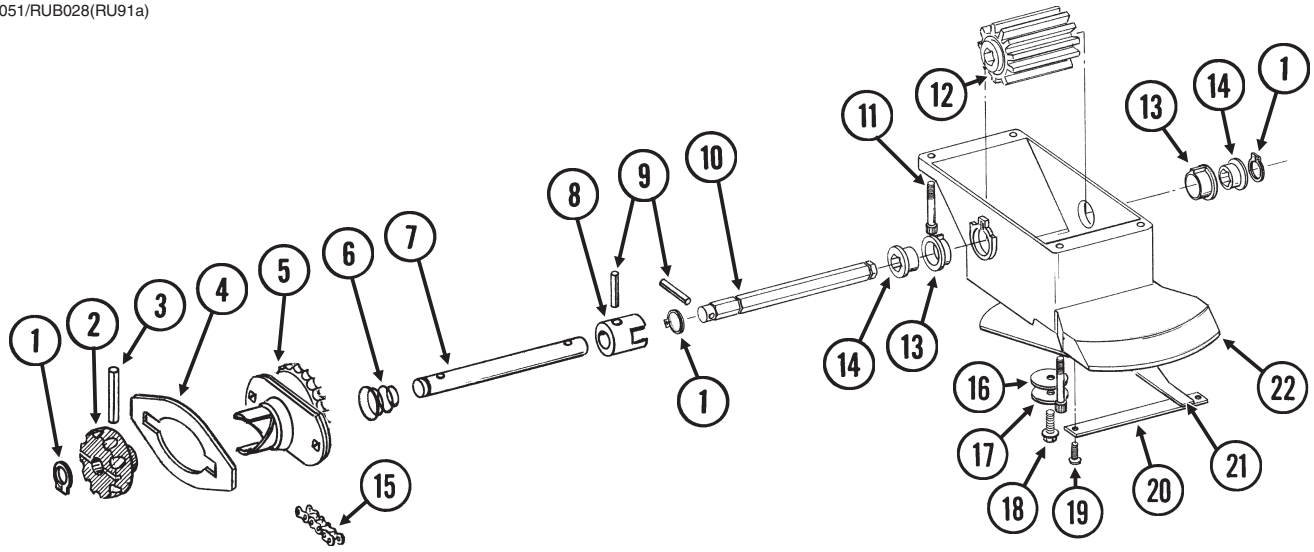
ITEM	PART NO.	QTY.	DESCRIPTION
1	GD11279	1	Lid
2	GA10634	1	Seed Hopper (EdgeVac)
3	GA9714	1	Seed Hopper, Reinforced (Mechanical)

(METR14d)



ITEM	PART NO.	QTY. (Per Row)	DESCRIPTION
1	G11387	3	Flat Washer, ⅜" SAE
2	GD2971-10	1	Sleeve, 9⁄16" Long
3	GD11219	1	Spring
4	G10201	1	Special Washer, ⅜" x 1½" O.D.
5	GD1026	1	Sleeve, 1 3⁄16" Long
6	GD11962	1	Idler
7	G10108	1	Lock Nut, ⅜"-16
8	G10670	2	Hair Pin Clip, No. 3
9	GD1059L GD1059R	1 1	Support, L.H. (Shown) Support, R.H.
10	G10002 G10229	4 4	Hex Head Cap Screw, ⅜"-16 x ¾" Lock Washer, ⅜"
11	G10312 G10620	8 8	Carriage Bolt, 5⁄16"-18 x ¾" Serrated Flange Nut, 5⁄16"-18
12	G10325	1	Hex Head Cap Screw, ⅜"-16 x 2 ¾"
13	G10567	3	External Retaining Ring, ⅝"
14	GD11305	1	Plate
15	A10759	1	Hopper Panel Extension (Non-Stock Item) (Sub Wholegoods Order Code 700-01099)
16	GD11424	4	Block
17	G10023 G10621	2 2	Hex Head Cap Screw, ¼"-20 x ¾" Serrated Flange Nut, ¼"-20
18	GD1060	1	Hinge
19	GA8371	1	Hopper
20	GA4444	1	Lid
21	GD11239	1	Knob
22	G10602	1	Spring Pin, ¼" x 1½"

RUA051/RUB028(RU91a)



ITEM	PART NO.	QTY. (Per Row)	DESCRIPTION
1	G10567	3	External Retaining Ring, 5/8"
2	GD11239	1	Knob
3	G10602	1	Spring Pin, 1/4" x 1 1/2"
4	---	-	See "Granular Chemical Hopper and Hopper Panel Extension" on page P31
5	GA8364	1	Sprocket And Bearing, Drive Clutch, 24 Tooth
6	GD11413	1	Spring
7	GD11240	1	Shaft
8	GB0278	1	Coupler
9	G10546	2	Spring Pin, 3/16" x 1 1/4"
10	GD11297	1	Shaft
11	G10921 G10257	4 4	Hex Socket Head Cap Screw, No. 10-24 x 7/8" Lock Washer, No. 10
12	GD7148	1	Feed Roller, Hex Bore
13	GB0115	2	Bearing
14	GD7258	2	Hex Bushing
15	G3303-108 GR0196	1 1	Chain, No. 41, 108 Pitch Including Connector Link Connector Link, No. 41
16	G10660	1	Wave Washer, 1/2"
17	G11385	1	Flat Washer, 1/4" SAE
18	G10570	1	Slotted Hex Self-Tapping Screw, 1/4"-20 x 3/4"
19	G11073	2	Slotted Hex Self-Tapping Screw, No. 10 x 3/8"
20	GD1061	1	Support Strap
21	GD1063	1	Metering Gate
22	GB0116	1	Granular Housing
A	GA8326	-	Granular Chemical Meter Complete (Items 1, 9, 10, 12-14 And 16-22)
B	GA8366	-	Granular Chemcial Meter Clutch (Items 1-3 and 5-9)

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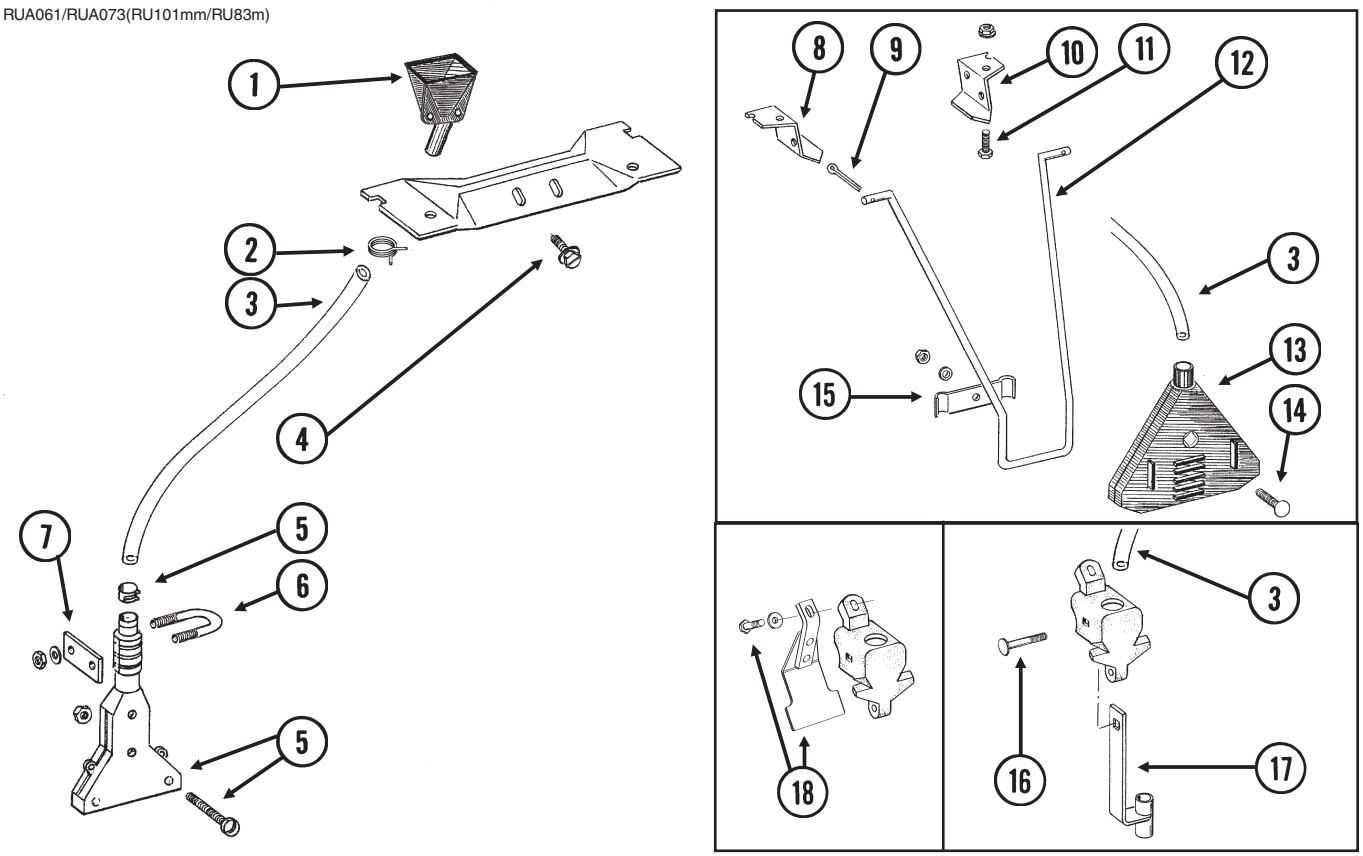
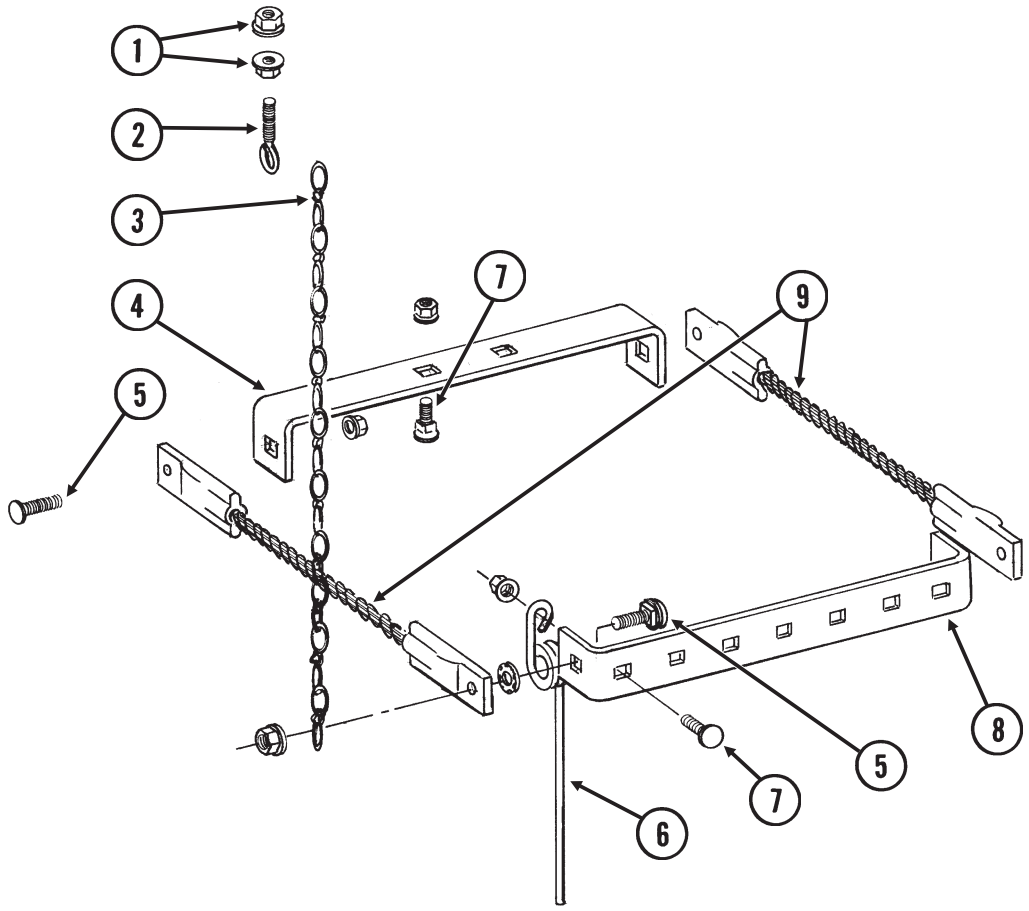
RUA061/RUA073(RU101mm/RU83m)



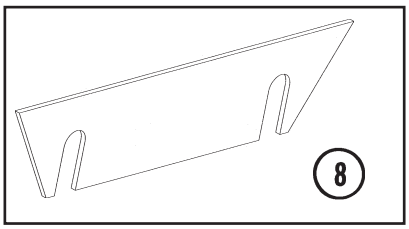
ITEM	PART NO.	QTY.	DESCRIPTION
1	GD2423	1	Funnel
2	G11209	1	Wire Hose Clamp, ¾"
3	GD2947	1	Hose, 7⁄16" x 28"
4	G10523	2	Slotted Pan Head Self-Tapping Screw, No. 10 x ½"
5	GA6907	1	Slope-Compensating Bander W/Hardware (4½" Band Width)
	G10864	1	Uni-Clamp
	G10757	2	Pan Head Screw, No. 10-32 x 1¼"
	G10758	2	Hex Nut, No. 10-32
6	GD10963	1	U-Bolt, 1½" x 1⁵⁄16" x ¼"-20
	G11385	2	Flat Washer, ¼" SAE
	G10110	2	Lock Nut, ¼"-20, Grade B
7	GD10984	1	Spacer
8	GD1115L	-	Hanger Bracket, L.H.
9	G10452	-	Cotter Pin, ⅛" x ½"
10	GD1115R	-	Hanger Bracket, R.H.
11	G10310	-	Carriage Bolt, ¼"-20 x ¾", Grade 2
	G10227	-	Lock Washer, ¼"
	G10103	-	Hex Nut, ¼"-20
12	GD1116	-	Hanger
13	GA2075	-	Diffuser, 14" Band
14	G10306	-	Carriage Bolt, ⅜"-16 x 2"
	G10229	-	Lock Washer, ⅜"
	G10101	-	Hex Nut, ⅜"-16
15	GD1118	-	Clamp
16	G10315	1	Carriage Bolt, ½"-13 x 2½" (Replaces Existing ½" x 2¼" Hardware)
17	GA6741	1	Bracket (Straight Drop In-Furrow)
18	G1K385	-	Bander Shield Kit W/Hardware And Instruction
	G10003	1	Hex Head Cap Screw, ⅜"-16 x 1½"
	G11387	1	Flat Washer, ⅜" SAE

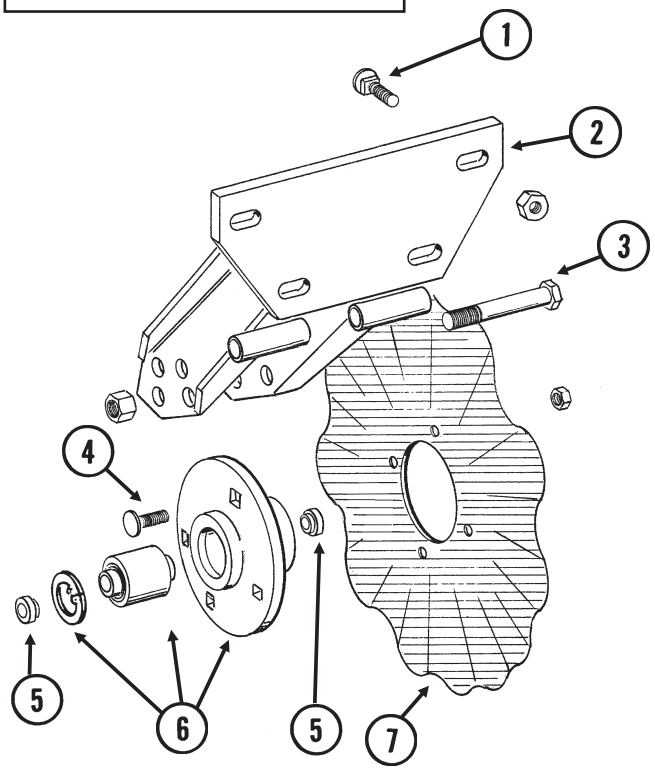
RUA055(RU95)



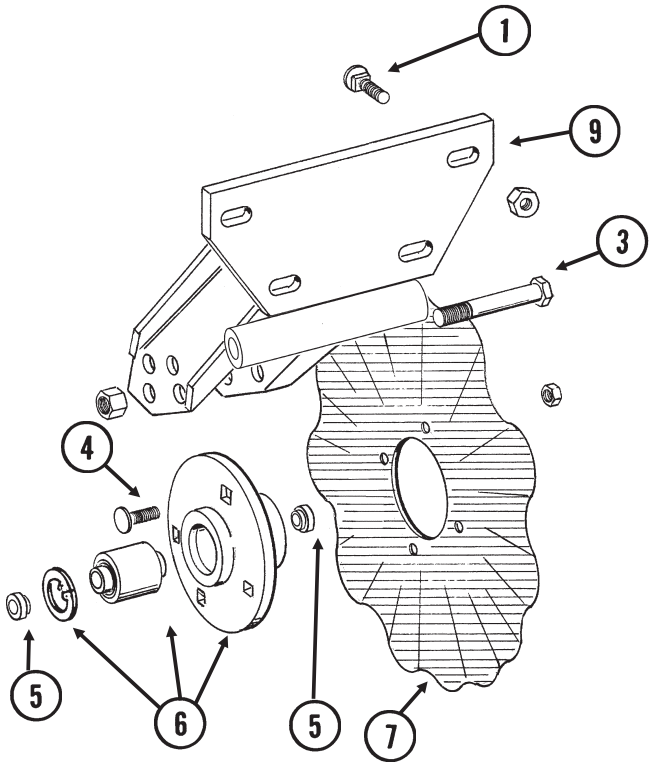
ITEM	PART NO.	QTY. (Per Row)	DESCRIPTION
1	G10621	4	Serrated Flange Nut, ¼"-20
2	GD2460	2	Eyebolt, ¼"-20
3	G3305-01	2	Twin Loop Chain, 9 Links
4	GD1143	1	Front Bracket
5	G10305 G10529 G10622	4 4 4	Carriage Bolt, ⅜"-16 x 1" External Tooth Lock Washer, ⅜" Serrated Flange Nut, ⅜"-16
6	GD1145	7	Spring Tooth
7	G10305 G10622	9 9	Carriage Bolt, ⅜"-16 x 1" Serrated Flange Nut, ⅜"-16
8	GD1144	1	Rear Bracket
9	GA2094	2	Cable Assembly

(D14398/RU102c/RU152)





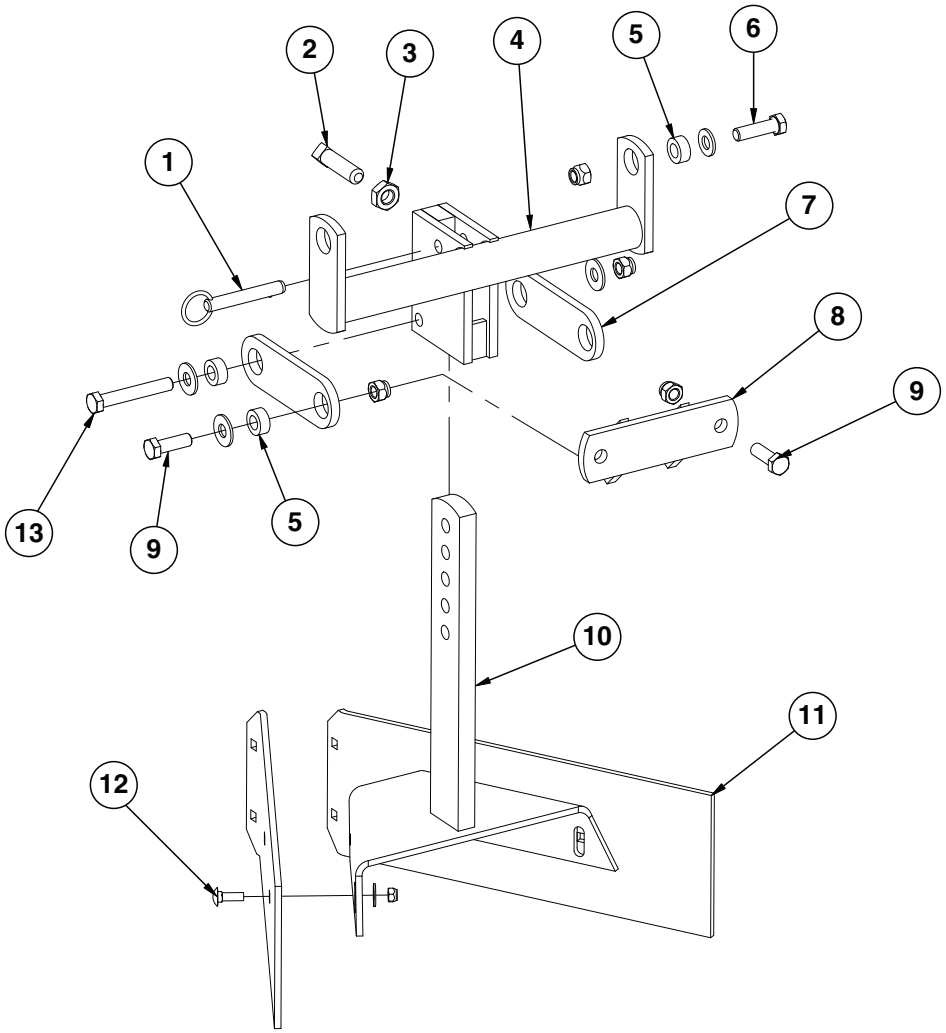
STYLE A



STYLE B

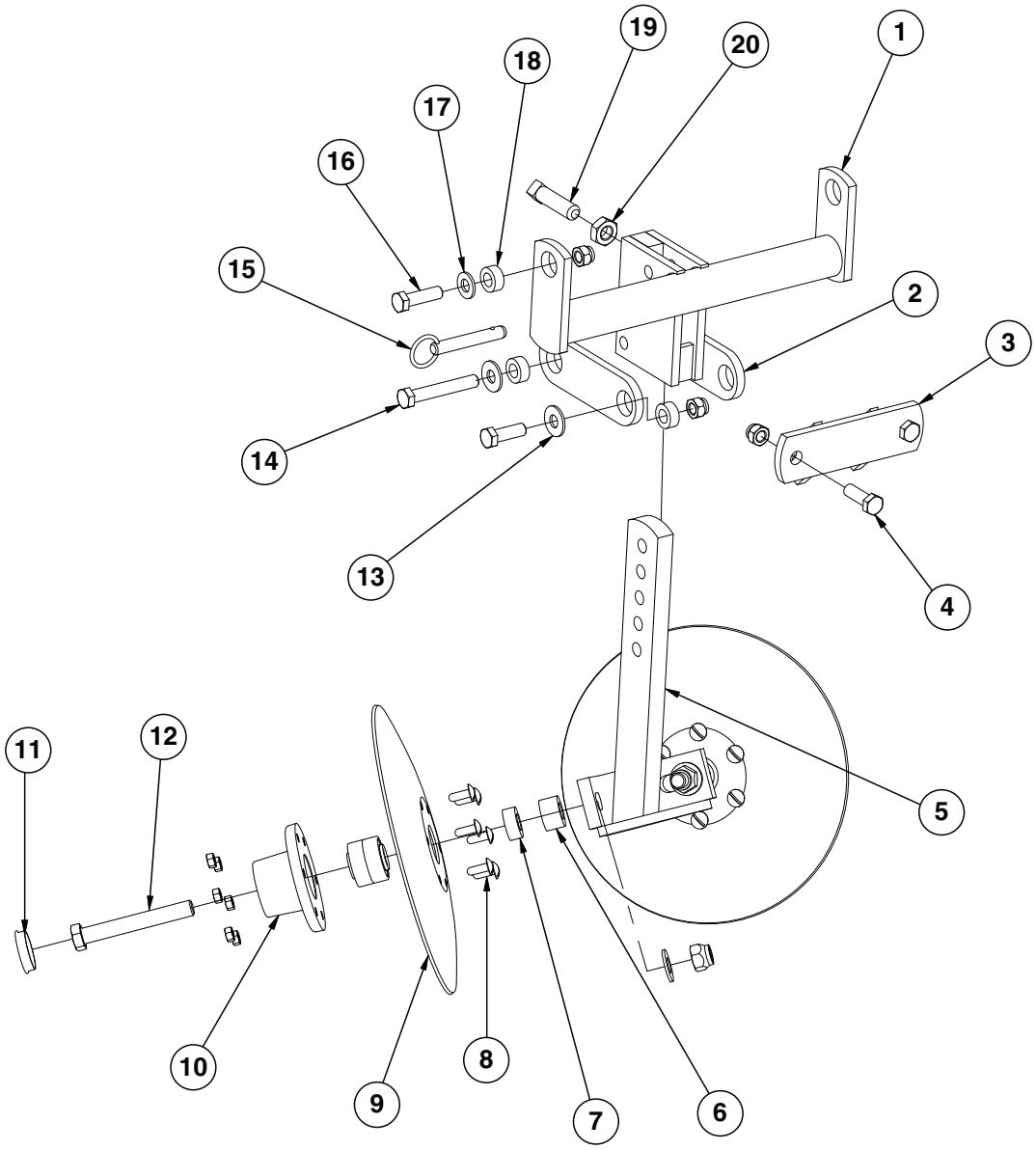
ITEM	PART NO.	QTY. (Per Row)	DESCRIPTION
1	G10574 G10111	4 4	Carriage Bolt, ½"-13 x 1¼" Lock Nut, ½"-13
2	GA5625	1	Arm (Style A)
3	G10036 G10107	1 1	Hex Head Cap Screw, ⅝"-11 x 4" Lock Nut, ⅝"-11
4	G10574 G10111	4 4	Carriage Bolt, ½"-13 x 1¼" Lock Nut, ½"-13
5	GD11677	2	Adapter
6	GA8641 GA8603 GD11652	1 - -	Hub W/Bearing and Retaining Ring Bearing, Double Row Retaining Ring, 2⁷⁄₁₆"
7	GD7803 GD7804 GD9254	- - -	Disc Blade, Fluted, 1", 8 Flutes (Shown) Disc Blade, Bubbled, 1" Disc Blade, Fluted, ¾", 13 Flutes
8	GD14398	-	Spacer
9	GA11520	1	Arm (Style B)

(IP1283)



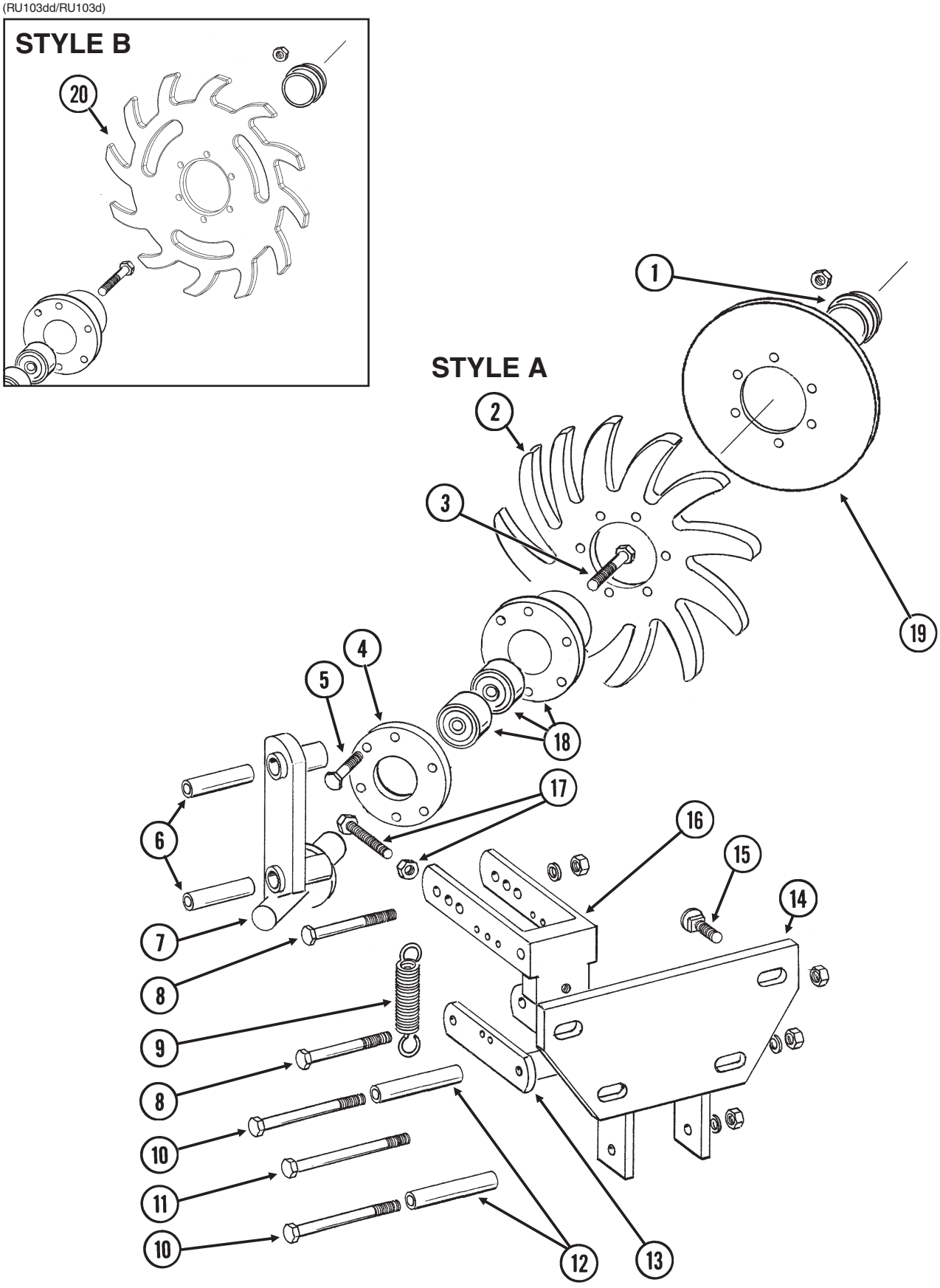
ITEM	PART NO.	QTY. (Per Row)	DESCRIPTION
1	G10536	1	Detent Pin, ½" x 2½" Grip
2	G10597	1	Square Head Set Screw, ⅝"-11 x 2¼"
3	G10503	1	Hex Jam Nut, ⅝"-11, Grade 2
4	GA5719	1	Mounting Bracket
5	GD7889	6	Bushing, 1" O.D. x 9⁄16" I.D. x 7⁄16" Long
6	G10039 G11389 G10111	2 2 2	Hex Head Cap Screw, ½"-13 x 1¾" Flat Washer, ½" SAE Lock Nut, ½"-13
7	GD7890	2	Link
8	GA5715	1	Anchor
9	G10017 G11389 G10111	4 2 4	Hex Head Cap Screw, ½"-13 x 1½" Flat Washer, ½" SAE Lock Nut, ½"-13
10	GA5892	1	Leveler
11	GD8266	2	Blade
12	G10303 G11386 G10109	6 4 6	Carriage Bolt, 5⁄16"-18 x 1" Flat Washer, 5⁄16" SAE Lock Nut, 5⁄16"-18, Grade 8
13	G10585 G11389 G10111	1 2 1	Hex Head Cap Screw, ½"-13 x 3¼" Flat Washer, ½" SAE Lock Nut, ½"-13

(IP1284)



ITEM	PART NO.	QTY. (Per Row)	DESCRIPTION
1	GA5719	1	Mounting Bracket
2	GD7890	2	Link
3	GA5715	1	Anchor
4	G10017 G10111	2 2	Hex Head Cap Screw, ½"-13 x 1½" Lock Nut, ½"-13
5	GA5718	1	Support Arm
6	GD7817-01	2	Spacer, 1 1/16" I.D. x ¾" Long
7	GD7817-04	2	Spacer, 1 1/16" I.D. x ½" Long
8	G10572 G10106	12 12	Truss Head Slotted Machine Screw, 5/16"-18 x ⅞" Hex Nut, 5/16"-18
9	GD7823 GD8307	- -	Disc Blade, Solid, 12" (Shown) Disc Blade, Notched, 12"
10	GA5654 GA2014	2 -	Hub W/Bearings Bearing
11	GD1132	2	Dust Cap
12	G10318 G10107 G11391	2 2 2	Hex Head Cap Screw, ⅝"-11 x 4½" Lock Nut, ⅝"-11 Flat Washer, ⅝" SAE
13	G11389 G10017 G10111	2 2 2	Flat Washer, ½" SAE Hex Head Cap Screw, ½"-13 x 1½" Lock Nut, ½"-13
14	G10585 G11389 G10111	1 2 1	Hex Head Cap Screw, ½"-13 x 3¼" Flat Washer, ½" SAE Lock Nut, ½"-13
15	G10536	1	Detent Pin, ½" x 2½" Grip
16	G10039 G10111	2 2	Hex Head Cap Screw, ½"-13 x 1¾" Lock Nut, ½"-13
17	G11389	2	Flat Washer, ½" SAE
18	GD7889	6	Bushing, 1" O.D. x 9/16" I.D. x 7/16" Long
19	G10597	1	Square Head Set Screw, ⅝"-11 x 2¼"
20	G10503	1	Hex Jam Nut, ⅝"-11, Grade 2

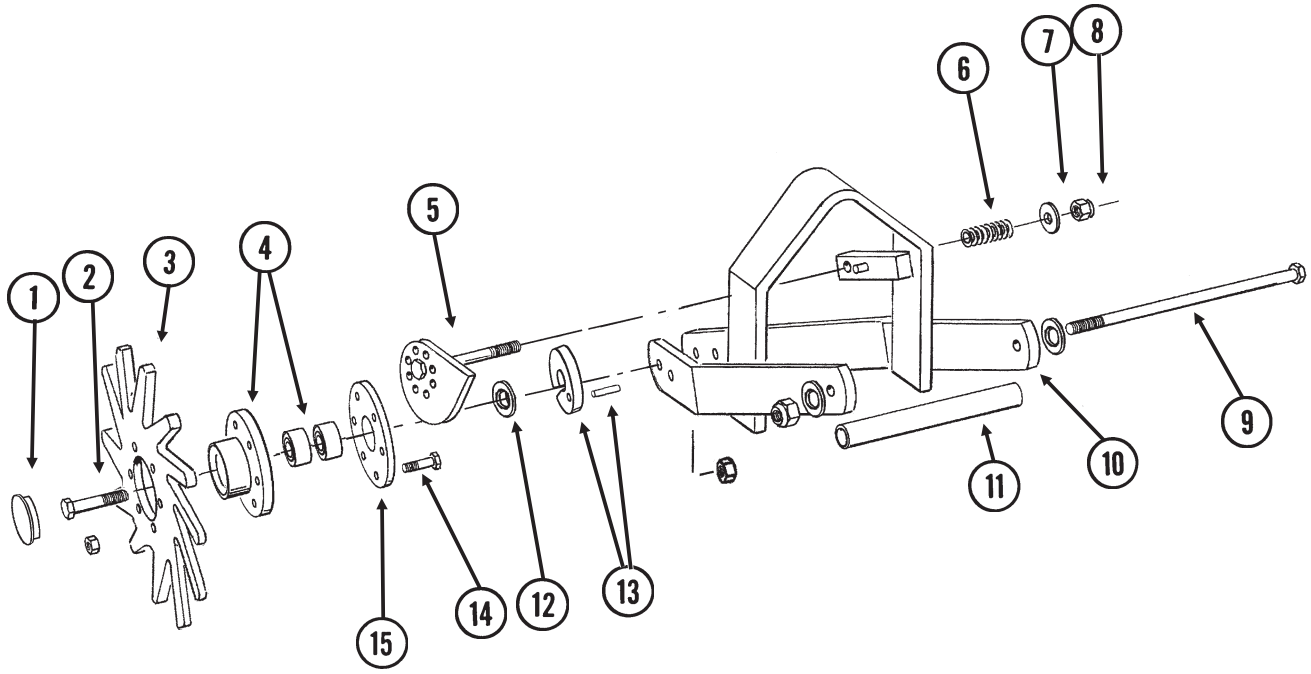
(RU103dd/RU103d)



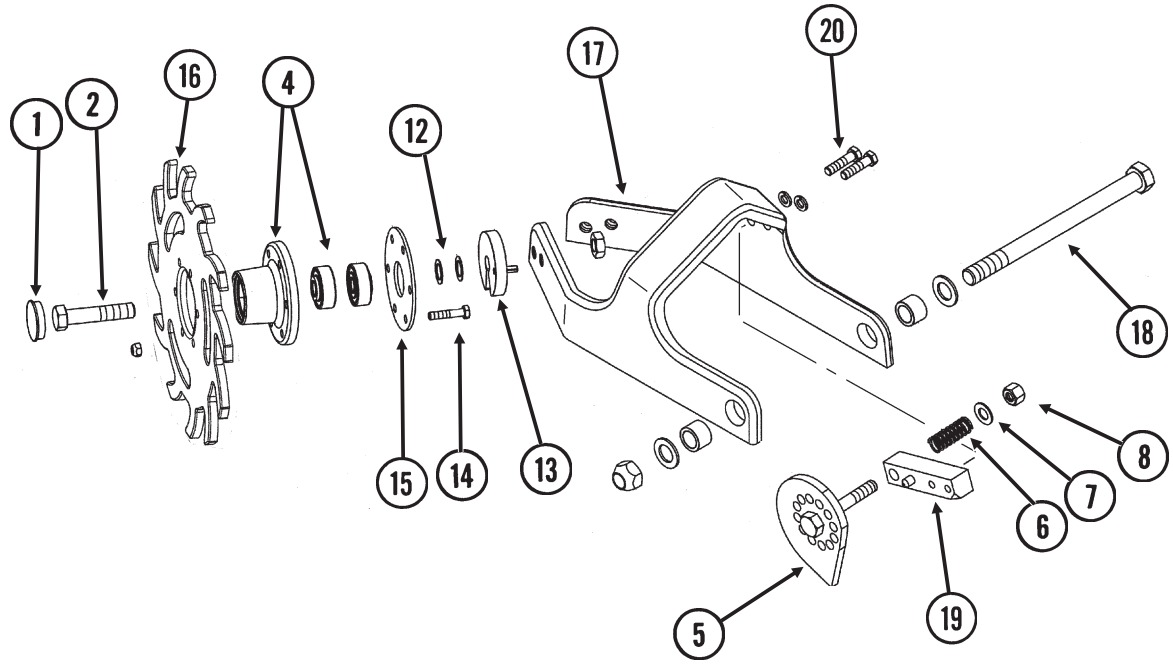
ITEM	PART NO.	QTY. (Per Row)	DESCRIPTION
1	GD1132	1	Dust Cap
2	GD10552	1	Wheel, 12 Tine, ⅜" x 12"
3	G10006	1	Hex Head Cap Screw, ⅝"-11 x 2¼"
4	GD9724	1	Backing Plate
5	G10133 G10109	6 6	Hex Head Cap Screw, 5⁄16"-18 x 1½" Lock Nut, 5⁄16"-18, Grade 8
6	GD9720	2	Spacer, ½" x 2 3⁄16" Long
7	GA6838	1	Wheel Mount
8	G10033 G10228 G10102	2 2 2	Hex Head Cap Screw, ½"-13 x 3½" Lock Washer, ½" Hex Nut, ½"-13
9	GD5857	2	Spring
10	G10045 G10228 G10102	2 2 2	Hex Head Cap Screw, ½"-13 x 4½" Lock Washer, ½" Hex Nut, ½"-13
11	G10348 G10111	1 1	Hex Head Cap Screw, ½"-13 x 5" (Lockup Bolt) Lock Nut, ½"-13
12	GD9715	2	Spacer, ½" x 3" Long
13	GA6834	1	Lower Link
14	GA6832	1	Mount
15	G10574 G10111	4 4	Carriage Bolt, ½"-13 x 1¼" Lock Nut, ½"-13
16	GA6833	1	Upper Link
17	G10371 G10501	1 1	Hex Head Cap Screw, ½"-13 x 3", Full Thread Hex Jam Nut, ½"-13, Grade 2
18	GA5654 GA2014	1 -	Hub W/Bearings Bearing
19	GD12534	-	Cover
20	GB0387	1	Wheel, 12 Tine, ⅜" x 12"
A	GA7446	-	Wheel Assembly, 12 Tine, R.H. (Items 2, 4, 5 and 18)
B	GA12236	-	Wheel Assembly, 12 Tine, R.H. (Items 4, 5, 18 and 20)

(RU104uuu/RU153)

STYLE A - Used With Style A Row Unit Mounted No Till Coulter

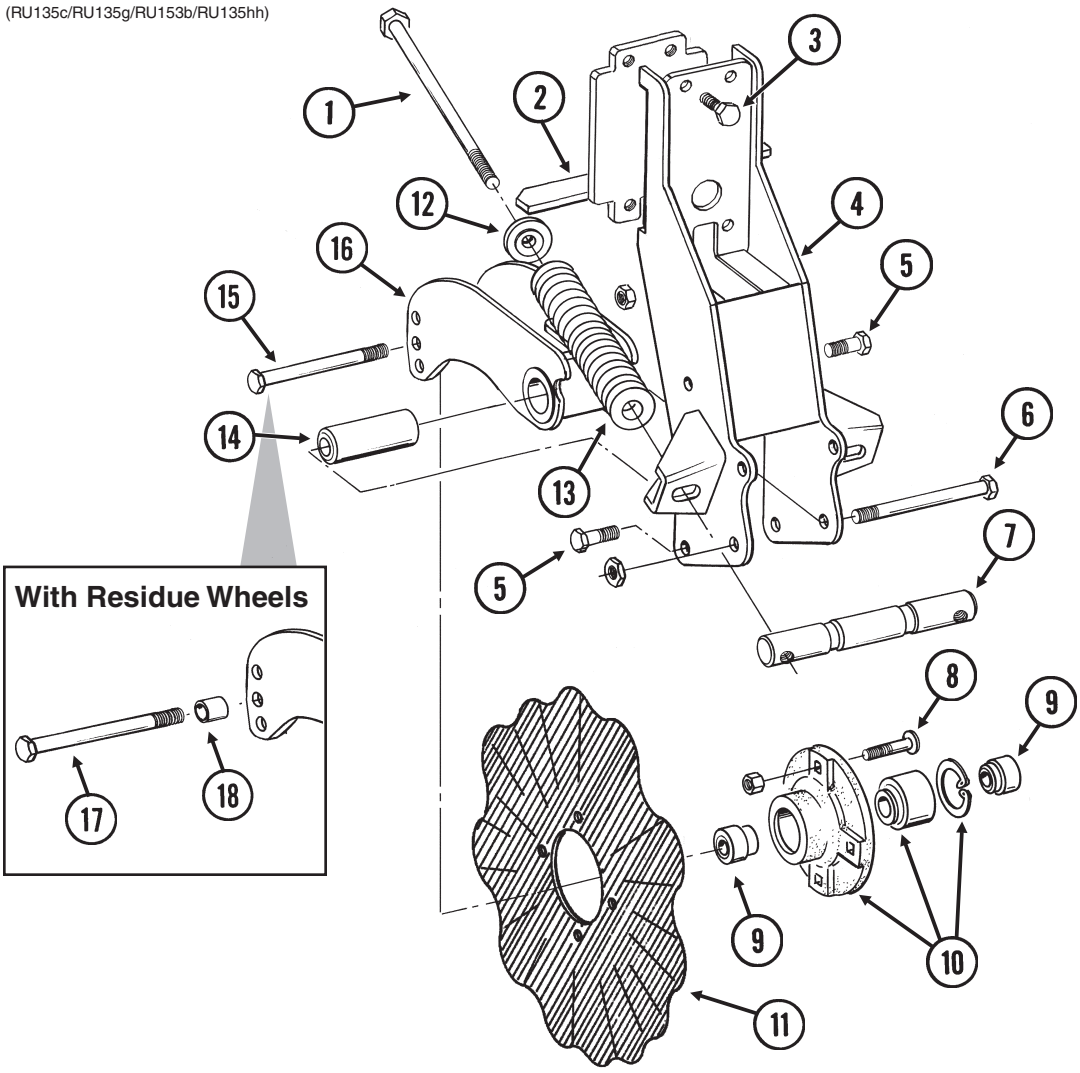


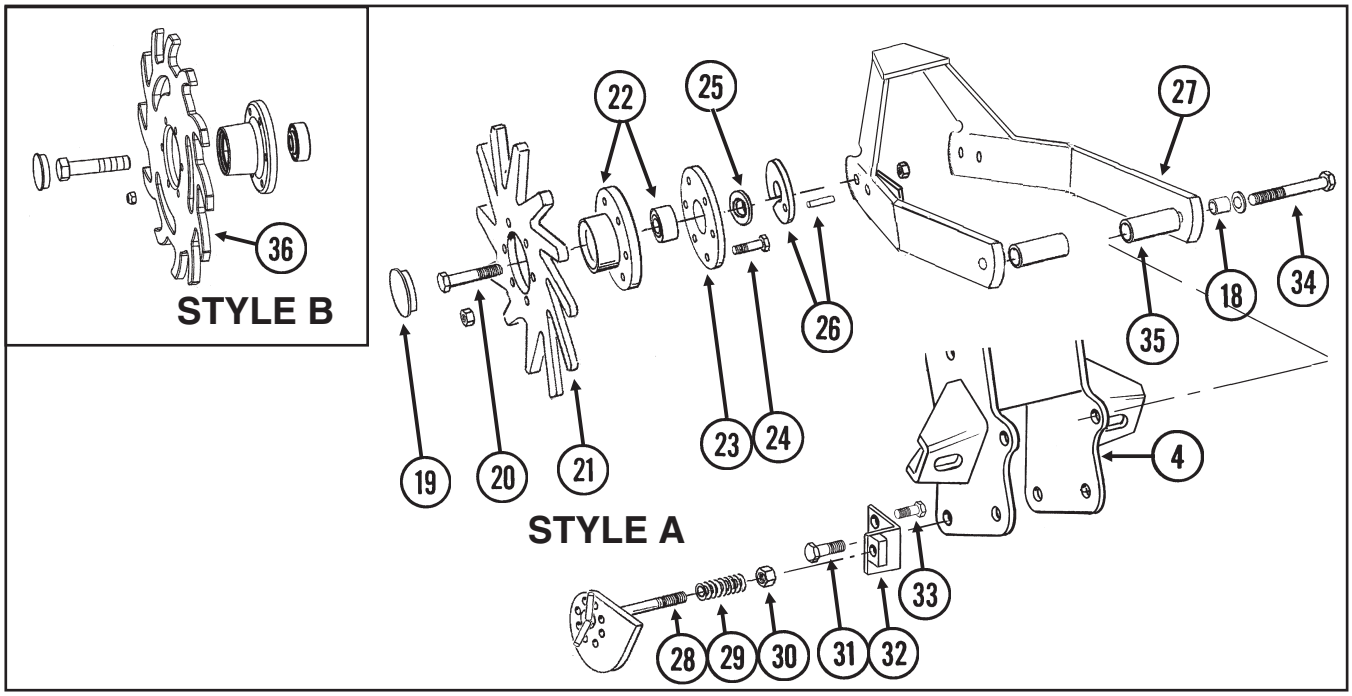
STYLE B - Used With Style B Row Unit Mounted No Till Coulter



ITEM	PART NO.	QTY. (Per Row)	DESCRIPTION
1	GD1132	2	Dust Cap
2	G10010 G10503	2 2	Hex Head Cap Screw, ⅝"-11 x 3" Hex Jam Nut, ⅝"-11, Grade 2
3	GD10552	2	Wheel, 12 Tine, ⅜" x 12"
4	GA5654 GA2014	2 -	Hub W/Bearings Bearing
5	GA14251	1	Cam
6	GD10519	1	Spring
7	G11389	1	Flat Washer, ½" SAE
8	G10974	1	Lock Nut W/Nylon Insert, ½"-13
9	G11098 G11389 G10974	1 2 1	Hex Head Cap Screw, ½"-13 x 9½", Grade 8 Flat Washer, ½" SAE Lock Nut W/Nylon Insert, ½"-13
10	GA7271	1	Mount
11	GD10526	1	Sleeve, 7½"
12	G10213	2	Machine Bushing, ⅝" (.030" Thick)
13	GA8760 G10765	2 -	Weed Guard W/Spring Pin Spring Pin, ¼" x 1"
14	G10133 G10109	12 12	Hex Head Cap Screw, 5⁄16"-18 x 1½" Lock Nut, 5⁄16"-18, Grade 8
15	GD9724	2	Backing Plate
16	GB0387	2	Wheel, 12 Tine, ⅜" x 12"
17	GB0401	1	Mount
18	G11236 GB0383 G11392 G11228	1 2 2 1	Hex Head Cap Screw, ¾"-10 x 10½" Bushing, 1⅛" O.D. x 25⁄32" I.D. x ¾" Long Flat Washer, ¾" SAE Lock Nut, ¾"-10
19	GA14250	1	Locking Pin
20	G10003 G10229	2 2	Hex Head Cap Screw, ⅜"-16 x 1½" Lock Washer, ⅜"
A	GA7446 GA7445	- -	Wheel Assembly, 12 Tine, R.H. (Items 3, 4, 14 and 15) (Shown) Wheel Assembly, 12 Tine, L.H. (Items 3, 4, 14 and 15)
B	GA12236 GA12235	- -	Wheel Assembly, 12 Tine, R.H. (Items 4, 14, 15 and 16) (Shown) Wheel Assembly, 12 Tine, L.H. (Items 4, 14, 15 and 16)
C	G1K467	-	Residue Wheel Mount Kit (Items 17-20)

(RU135c/RU135g/RU153b/RU135hh)





ITEM	PART NO.	QTY. (Per Row)	DESCRIPTION
1	G11010	2	Hex Head Cap Screw, ¾"-10 x 12"
2	GA9844	1	Plate W/Angle
3	G10039	4	Hex Head Cap Screw, ½"-13 x 1¾"
4	GA9131	1	Coulter Frame
5	G10007	4	Hex Head Cap Screw, ⅝"-11 x 1½"
	G10107	4	Lock Nut, ⅝"-11
6	G10400	1	Hex Head Cap Screw, ¾"-10 x 6½"
	G10112	1	Lock Nut, ¾"-10
7	GD12826	1	Spring Anchor Bar
8	G10574	4	Carriage Bolt, ½"-13 x 1¼"
	G10111	4	Lock Nut, ½"-13
9	GD12827	2	Adapter
10	GA8641	1	Hub W/Bearing and Retaining Ring
	GA8603	1	Bearing, Double Row
	GD11652	1	Retaining Ring, 2 7/16"
11	GD7803	1	Disc Blade, Fluted, 1", 8 Flutes (Shown)
	GD7804	-	Disc Blade, Bubbled, 1"
	GD9254	-	Disc Blade, Fluted, ¾", 13 Flutes
12	GB0213	2	Spring Seat
13	GD12817	2	Compression Spring
14	GD12829	1	Sleeve
15	G10046	1	Hex Head Cap Screw, ⅝"-11 x 5"
	G10107	1	Lock Nut, ⅝"-11
16	GA9845	1	Coulter Arm W/Grease Fitting
	G10643	-	Grease Fitting, 45°, ¼"-28
17	G10011	1	Hex Head Cap Screw, ⅝"-11 x 5½"
	G10107	1	Lock Nut, ⅝"-11
18	GB0218	3	Bushing, 21/32" I.D. x ⅞" O.D. x 19/32" Long
19	GD1132	2	Dust Cap
20	G10010	2	Hex Head Cap Screw, ⅝"-11 x 3"
	G10503	2	Hex Jam Nut, ⅝"-11, Grade 2
21	GD10552	2	Wheel, 12 Tine, ⅜" x 12"
22	GA5654	2	Hub W/Bearings
	GA2014	-	Bearing
23	GD9724	2	Backing Plate
24	G10133	12	Hex Head Cap Screw, 5/16"-18 x 1½"
	G10109	12	Lock Nut, 5/16"-18, Grade 8
25	G10213	2	Machine Bushing, ⅝" (.030" Thick)
26	GA9862	2	Weed Guard W/Spring Pin
	G10765	-	Spring Pin, ¼" x 1"
27	GA9865	1	Mount
28	GA9861	1	Cam
29	GD10519	1	Spring
30	G10974	1	Lock Nut W/Nylon Insert, ½"-13
31	G10005	1	Hex Head Cap Screw, ⅝"-11 x 1¾"
	G10107	4	Lock Nut, ⅝"-11
32	GA9864	1	Support
33	G10014	1	Hex Head Cap Screw, ½"-13 x 1"
	G10102	1	Hex Nut, ½"-13
34	G10011	2	Hex Head Cap Screw, ⅝"-11 x 5½"
	G11391	2	Flat Washer, ⅝" SAE
	G10730	2	Lock Nut W/Nylon Insert, ⅝"-11
35	GD14170	2	Sleeve, 3"
36	GB0387	2	Wheel, 12 Tine, ⅜" x 12"
A	GA7446	-	Wheel Assembly, 12 Tine, R.H. (Items 21-24) (Shown)
	GA7445	-	Wheel Assembly, 12 Tine, L.H. (Items 21-24)
B	GA12236	-	Wheel Assembly, 12 Tine, R.H. (Items 22, 23, 24 and 36) (Shown)
	GA12235	-	Wheel Assembly, 12 Tine, L.H. (Items 22, 23, 24 and 36)

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ROW UNIT
ASSEMBLY & INSTALLATION
INSTRUCTIONS

(SDS Planters w/Mechanical Seed Metering)

IS619 **Rev. 2/08**

Throughout these instructions the symbol  and/or the words **NOTE, IMPORTANT, CAUTION, WARNING** or **DANGER** are used to call your attention to important information. The definition of each of these terms follows:

NOTE: Indicates a special point of information or addresses a machine adjustment.

IMPORTANT: Indicates an operation or maintenance condition which, if not corrected, could result in damage to machine, property, crops or the environment.

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

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

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

⚠ Make sure there are no persons near the planter when row markers are in operation.

⚠ Always install all lockup devices and/or lower planter to the ground before working under the unit.

⚠ Never clean, lubricate or adjust a machine that is in motion.

⚠ Before applying pressure to the hydraulic system, make sure all connections are tight and that hoses and fittings have not been damaged. Hydraulic fluid escaping under pressure can have sufficient force to penetrate skin, causing injury or infection.

⚠ The seed and fertilizer metering systems of this planter are designed to be driven by ground tires. Hydraulic motors power the seed delivery systems. The use of aftermarket hydraulic, electric or PTO drives may create serious safety hazards to you and others nearby. Always follow all appropriate safety standards and practices to protect you and others near this planter from injury. Make sure all safety shields are installed correctly.

⚠ The row unit has been designed and built with your safety in mind. Do not make any alterations or changes to this equipment. Any alteration to the design or construction may create safety hazards.

WORK AREA

⚠ Keep the work area clean and dry. Wet or oily floors are slippery. Wet spots can be dangerous when working with electrical equipment.

⚠ Make sure the service area is adequately vented.

⚠ Be sure all electrical outlets and tools are properly grounded.

⚠ Use adequate light for the job.

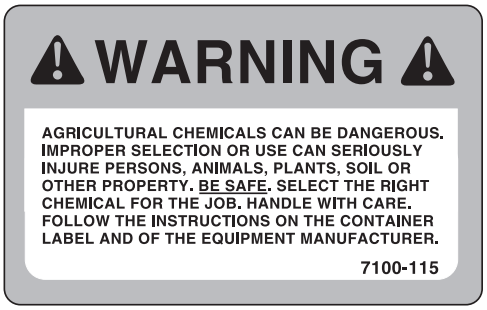
⚠ Be prepared if an accident or fire should occur. Know where first aid kits and fire extinguishers are located and know how to use them.

SAFETY WARNING SIGNS ⚠

The “WARNING” sign illustrated on this page is placed on the machine to warn of hazards. This and other warning found on these signs are for your personal safety and the safety of those around you. OBSERVE THESE WARNINGS!

- **Keep these signs clean so they can be observed readily. Wash with soap and water or cleaning solution as required.**
- **Replace “WARNING” signs should they become damaged, painted over or if they are missing.**
- **Check the reflective decals and SMV sign periodically. Replace if they show loss of any of their reflective properties.**
- **When replacing decals, clean the machine surface thoroughly using soap and water or cleaning solution to remove all dirt and grease.**

Part No. G7100-115
(Located on the under side of each granular chemical hopper lid.)



The KINZE® Pull Row Units have been assembled as completely as possible before shipment. Read completely through all instructions before beginning assembly.

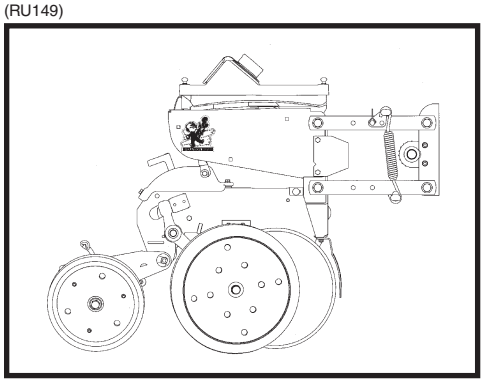
Before beginning set-up, using the shipping order and the contents listings in each instruction, check to be sure you have all the packages needed to complete assembly.

GENERAL INFORMATION

The information used in these instructions was current at the time of printing. However, due to KINZE's continual attempts to improve its product, production changes may cause your machine to appear slightly different in detail. KINZE Manufacturing, Inc. reserves the right to change specifications or design without notice and without incurring obligation to install the same on machines previously manufactured.

Right hand (R.H.) and left hand (L.H.), as used throughout these instructions, are determined by facing in the direction the machine will travel when in use, unless otherwise stated.

(RU149)



Model 3800 Planter
Pull Row Unit (Shown With Optional
Quick Adjustable Down Force Springs)

MOUNTING BOLTS AND HARDWARE IS619

All hardware furnished with the row unit unless otherwise noted is SAE Grade 5. Grade 5 cap screws are marked with three radial lines on the head. If hardware must be replaced, be sure to replace it with hardware of equal size, strength and thread type. Refer to the torque values chart when tightening hardware.

It is suggested that hardware be left somewhat loose until all parts have been assembled. This especially applies to bearing flanges and idler sprockets. Then as a final step, tighten all hardware to the torque value specified in the chart.

NOTE: Over tightening hardware can cause as much damage as under tightening. Tightening hardware beyond the recommended torque range can reduce its shock load capacity.

Before operating the planter for the first time, check to be sure all hardware is tight. Check all hardware again after approximately the first 50 hours of operation and at the beginning of each planting season thereafter.

Row Unit Parallel Linkage Bushing Bolts/Lock Nuts - 130 Ft. Lbs. (See "Bushings" in the Lubrication Section of the Operator & Parts Manual.)

TORQUE VALUES CHART - PLATED HARDWARE

Bolt Diameter	Grade 2		Grade 5		Grade 8	
	Coarse	Fine	Coarse	Fine	Coarse	Fine
¼"	50 In. Lbs.	56 In. Lbs.	76 In. Lbs.	87 In. Lbs.	9 Ft. Lbs.	10 Ft. Lbs.
5/16"	8 Ft. Lbs.	9 Ft. Lbs.	13 Ft. Lbs.	14 Ft. Lbs.	18 Ft. Lbs.	20 Ft. Lbs.
3/8"	15 Ft. Lbs.	17 Ft. Lbs.	23 Ft. Lbs.	26 Ft. Lbs.	33 Ft. Lbs.	37 Ft. Lbs.
7/16"	25 Ft. Lbs.	27 Ft. Lbs.	37 Ft. Lbs.	41 Ft. Lbs.	52 Ft. Lbs.	58 Ft. Lbs.
½"	35 Ft. Lbs.	40 Ft. Lbs.	57 Ft. Lbs.	64 Ft. Lbs.	80 Ft. Lbs.	90 Ft. Lbs.
9/16"	50 Ft. Lbs.	60 Ft. Lbs.	80 Ft. Lbs.	90 Ft. Lbs.	115 Ft. Lbs.	130 Ft. Lbs.
5/8"	70 Ft. Lbs.	80 Ft. Lbs.	110 Ft. Lbs.	125 Ft. Lbs.	160 Ft. Lbs.	180 Ft. Lbs.
¾"	130 Ft. Lbs.	145 Ft. Lbs.	200 Ft. Lbs.	220 Ft. Lbs.	280 Ft. Lbs.	315 Ft. Lbs.
7/8"	125 Ft. Lbs.	140 Ft. Lbs.	320 Ft. Lbs.	350 Ft. Lbs.	450 Ft. Lbs.	500 Ft. Lbs.
1"	190 Ft. Lbs.	205 Ft. Lbs.	480 Ft. Lbs.	530 Ft. Lbs.	675 Ft. Lbs.	750 Ft. Lbs.
1 1/8"	265 Ft. Lbs.	300 Ft. Lbs.	600 Ft. Lbs.	670 Ft. Lbs.	960 Ft. Lbs.	1075 Ft. Lbs.
1 ¼"	375 Ft. Lbs.	415 Ft. Lbs.	840 Ft. Lbs.	930 Ft. Lbs.	1360 Ft. Lbs.	1500 Ft. Lbs.
1 3/8"	490 Ft. Lbs.	560 Ft. Lbs.	1100 Ft. Lbs.	1250 Ft. Lbs.	1780 Ft. Lbs.	2030 Ft. Lbs.
1 ½"	650 Ft. Lbs.	730 Ft. Lbs.	1450 Ft. Lbs.	1650 Ft. Lbs.	2307 Ft. Lbs.	2670 Ft. Lbs.

NOTE: Unplated hardware and bolts with lock nuts should be torqued approximately ⅛ higher than the above values. Bolts lubricated prior to installation should be torqued to 70% of value shown on chart.

GRADE 2	GRADE 5	GRADE 8
No Marks	3 Marks	6 Marks
		

TABLE OF CONTENTS IS619

PULL ROW UNIT (Less Closing Wheels And Down Pressure Options) IS619

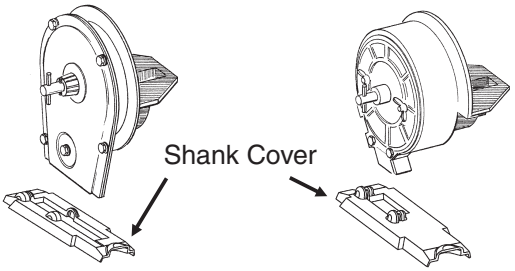
NOTE: See "Closing Wheel Options" section of these instructions for information on the assembly of rubber "V" closing wheels or cast iron "V" closing wheels.

NOTE: Row units and U-bolts are installed on the base machine. Down pressure options, seed meters, seed discs or seed tubes are not supplied with base machine.

STEP 1 Install seed metering unit with shank cover on mini-hopper.

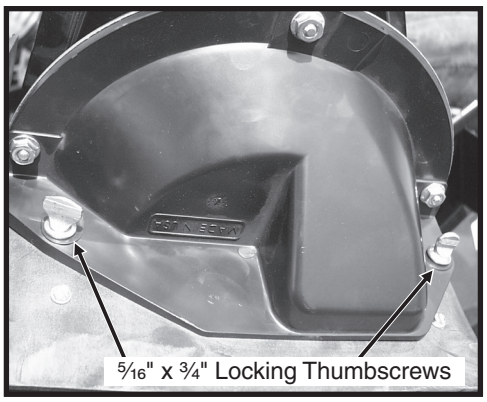
Assemble selected seed disc on meter if installing brush-type seed meters.

DO NOT OVER TIGHTEN.



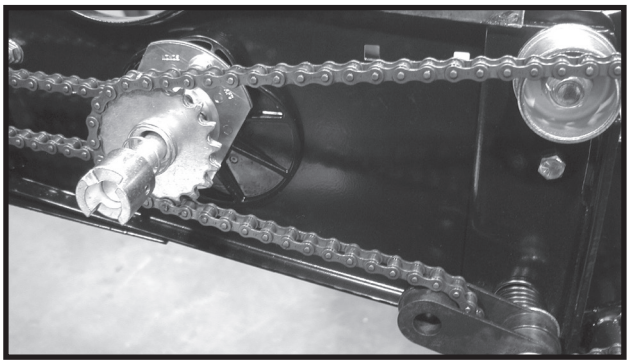
Repeat STEP on all row units.

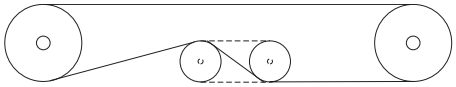
D041801103 (RU13I/RU14g)



STEP 2 Check row unit drive chain alignment and routing. Repeat procedure on all row units.

D051705103



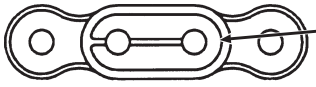


19 Tooth Driven Sprocket

Bearing Sprocket

NOTE: Make sure connector link is installed with closed end oriented properly as shown.

(PLTR24)



Direction Of Chain Travel

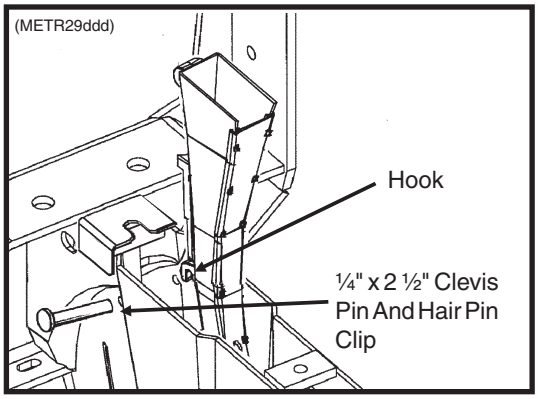
STEP 3 Install seed tube (not supplied as part of row unit) in shank as shown.

Position hook on the front of the seed tube over lower cross pin in shank. Pivot top of seed tube forward and secure with retaining pin and locking clip. Repeat on all row units.

Refer to the instructions supplied with the electronic seed monitor installaton instructions for additional information.

STEP 4 If additional optional equipment is being installed on the row unit, see "Optional Attachment" assembly section.

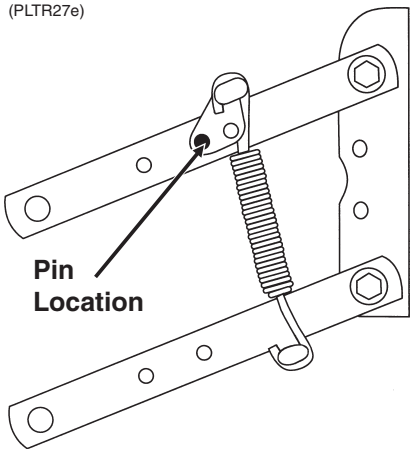
(METR29ddd)



Quick Adjustable Down Force Springs Package (1 Row) - 700-01132

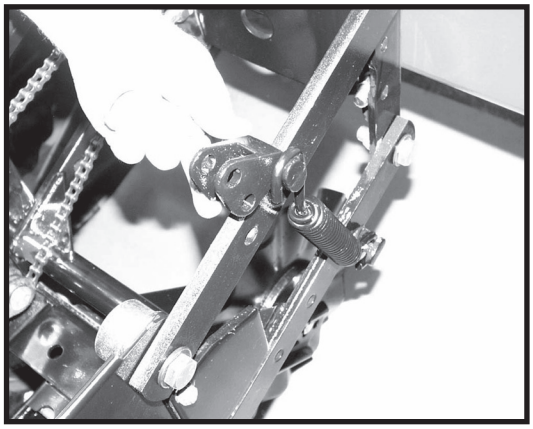
(1) 8216X Mechanical Down Pressure Package (1 Row)
- (4)D8249 Spring
- (2)D14217 Tab Lock Pin, 7/16" x 1 1/2"
- (2)B0186 Spring Anchor

(PLTR27e)

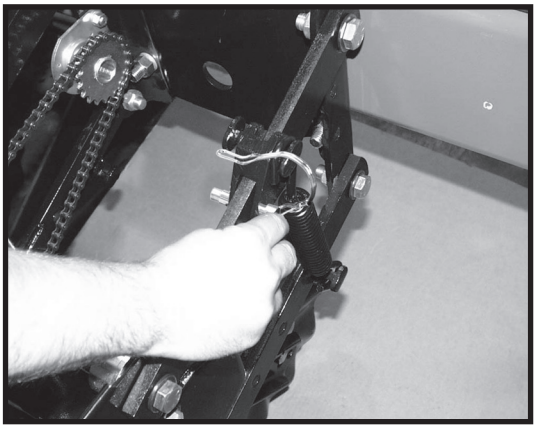


With the planter raised until the bottom of the toolbar is approximately 30" above the floor. Install support stands to safely hold the planter until assembly is complete. Install one down force spring to the L.H. parallel arms and one down force spring to the R.H. parallel arms. (a)Install spring onto outside of lower parallel arm at spring tab with open end of spring hook facing toward seed hopper. (b) Position spring mount onto upper parallel arm, rotate mount forward and position spring onto spring mount tab with open end of spring hook toward seed hopper. (c)Rotate spring down until mount aligns with hole in parallel arm as shown below and install pin. Repeat on all row units.

D070799168

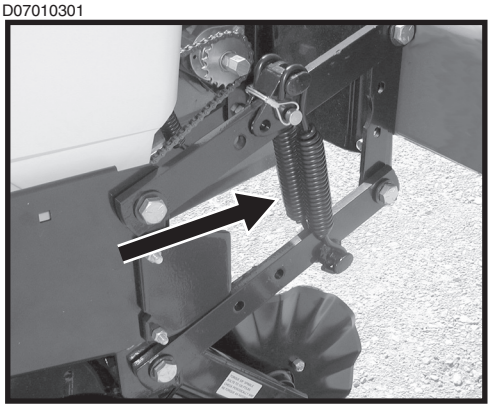


D070799169a



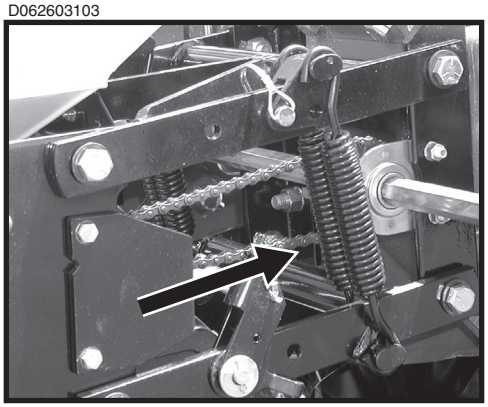
NOTE: If no till coulters are to be installed, install all four down force springs as shown below.

D07010301



Pull Row Unit

D062603103



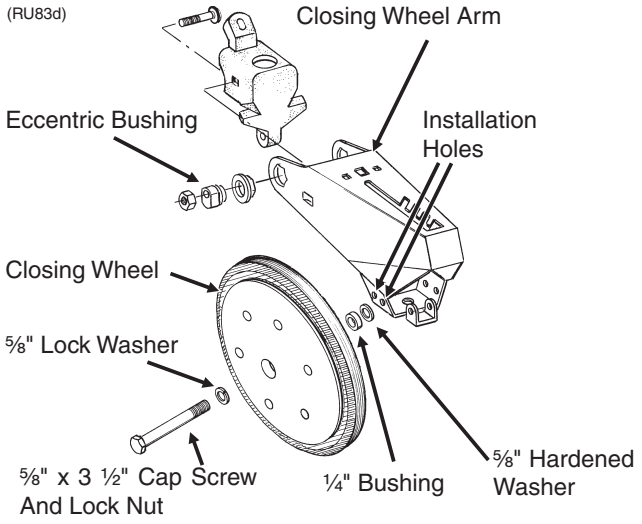
Push Row Unit

NOTE: It is necessary for the operator to adjust springs according to field conditions. If springs are adjusted for too much down pressure for field conditions, it is possible for the row units to lift the planter to the extent that the drive wheels do not make sufficient contact.

NOTE: See instructions supplied with Pneumatic Down Pressure Package for installation of that option.

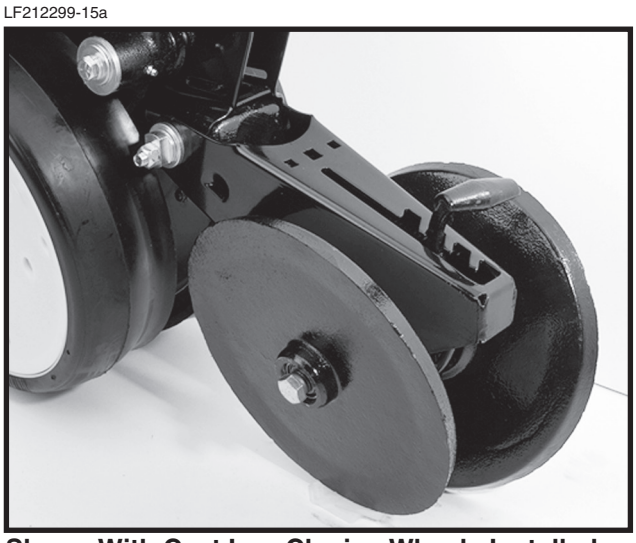
CLOSING WHEEL OPTIONS IS619
Rubber "V" And Cast Iron "V"

Rubber "V" Closing Wheel - 700-01070 (7279X)
(2)A6434 Rubber Wheel



Shown With Rubber Closing Wheel

Cast Iron "V" Closing Wheel - 700-01061
(2)A6597 Cast Iron Wheel



Shown With Cast Iron Closing Wheels Installed

A10948 Hardware Bag (6 Rows)

(12)10013	Hex Head Cap Screw, ⅝"-11 x 3 ½"
(12)10230	Lock Washer, ⅝"
(12)D7805	Special Washer, ⅝", Hardened
(12)D1109	Bushing, 41⁄64" I.D. x ⅞" O.D. x ¼" Long
(12)10107	Lock Nut, ⅝"-11

A10949 Hardware Bag (8 Rows)

(16)10013	Hex Head Cap Screw, ⅝"-11 x 3 ½"
(16)10230	Lock Washer, ⅝"
(16)D7805	Special Washer, ⅝", Hardened
(16)D1109	Bushing, 41⁄64" I.D. x ⅞" O.D. x ¼" Long
(16)10107	Lock Nut, ⅝"-11

NOTE: Hardware for installing closing wheels is shipped in the bulk seed hopper.

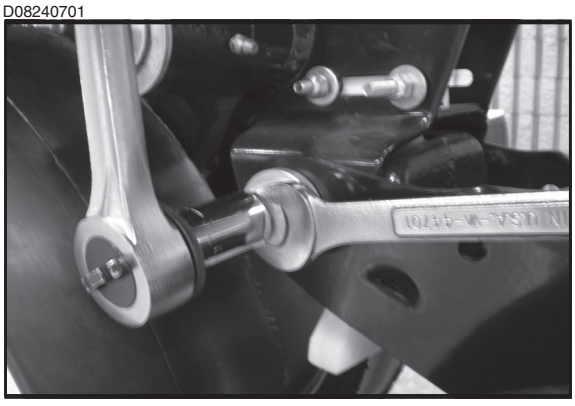
STEP 1 PULL ROW UNIT CLOSING WHEEL INSTALLATION

Install closing wheel on each side of arm using installation holes at the rear of the arm as shown. Assemble ⅝" x 3 ½" cap screw through ⅝" lock washer, through closing wheel, through ¼" bushing, through ⅝" hardened washer and through arm. Secure with ⅝" lock nut on inside of arm.

STEP 2 Position eccentric bushings to align closing wheels to seed trench. Tighten closing wheel attaching hardware.

NOTE: Install cast iron closing wheel with beveled edge to inside as shown in photo above.

Initial setting: adjust the eccentric bushing on both sides with the long portion of the eccentric straight back as shown.



Granular Chemical Hopper With Meter, Hopper Panel Extension And Bander

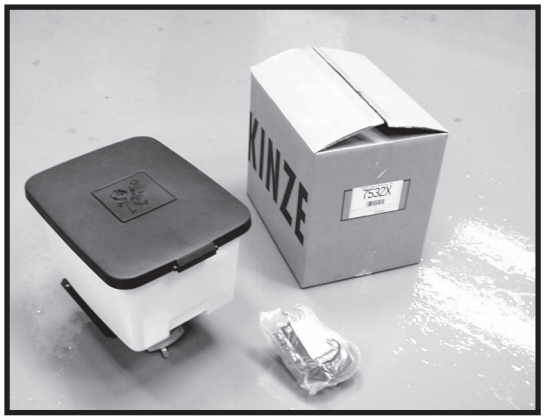
Granular Chemical Hopper With Meter, Hopper Panel Extension And Bander - 700-01077

(1)7532X Chemical Hopper W/Meter And Bander
- (1)A8368 Hardware Bag (Chain, Chain Idler, Meter Drive, Funnel, Hose, 4 ½" Slope-Compensating Bander And Straight Drop In-Furrow Placement Components)
- (1)A8367 Hopper And Meter

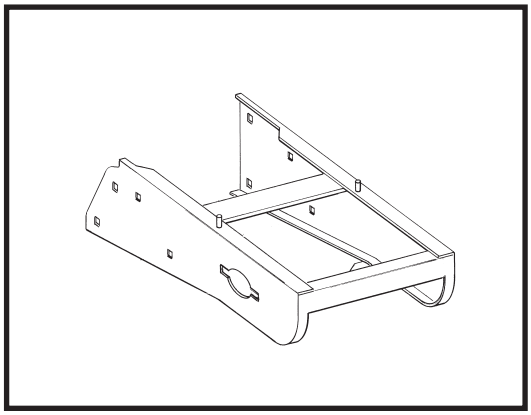
(1)7888X Chemical Hopper Support Package
- (6)10312 Carriage Bolt, 5⁄16"-18 x ¾"
- (6)10620 Flange Nut, 5⁄16"-18
- (1)A10757 Hopper Panel Extension

(1)7719X Reflective Decals Package (1 Package Per 2 Rows) (IS490)

D061099206



(METR14e)



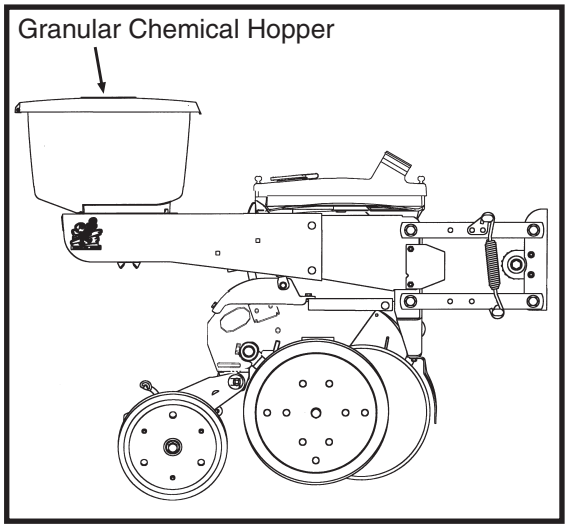
The Granular Chemical Hopper With Meter, Hopper Panel Extension And Bander is designed for use on the KINZE® Pull Row Unit. This package includes parts for 4 ½" slope-compensating banding or straight drop in-furrow placement of granular chemical.

DANGER: Agricultural chemicals can be dangerous. Improper selection or use can seriously injure persons, animals, plants, soil or other property. BE SAFE: Select the right chemical for the job. Handle it with care. Follow the instructions on the container label and of the equipment manufacturer.

D06039901

Be sure the G7100-115 warning decal is in place on the underside of each granular chemical hopper lid.

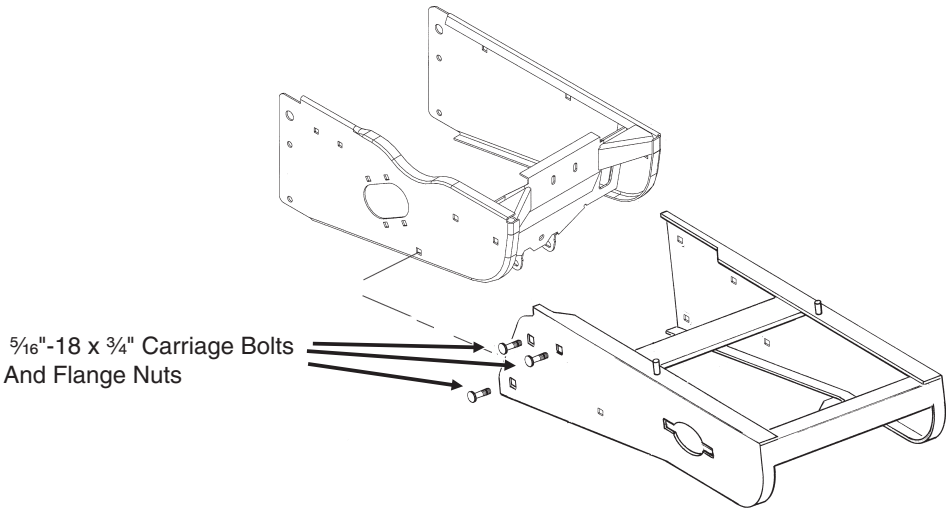
(RU143c)



Granular Chemical Hopper With Meter, Hopper Panel Extension And Bander

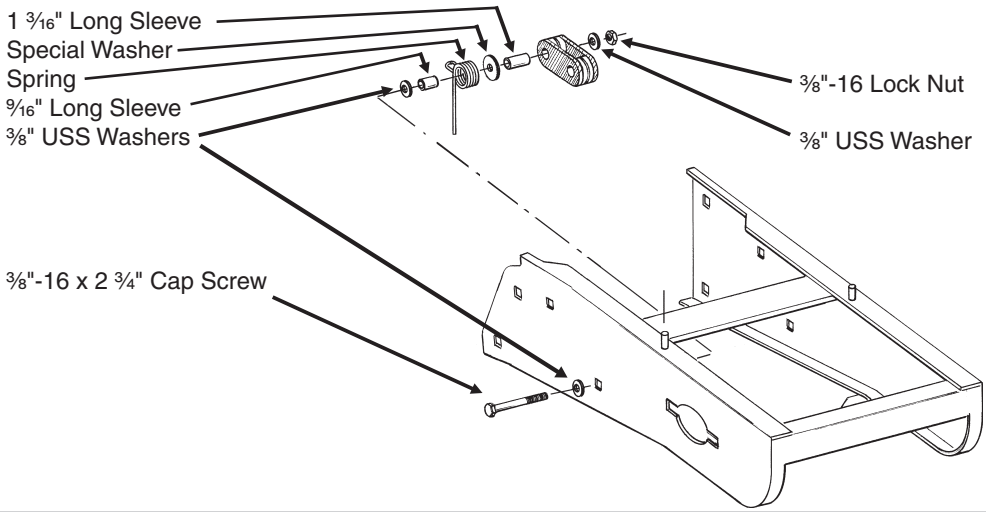
STEP 1 Install hopper panel extension onto hopper support as shown below.

(METR14cc)



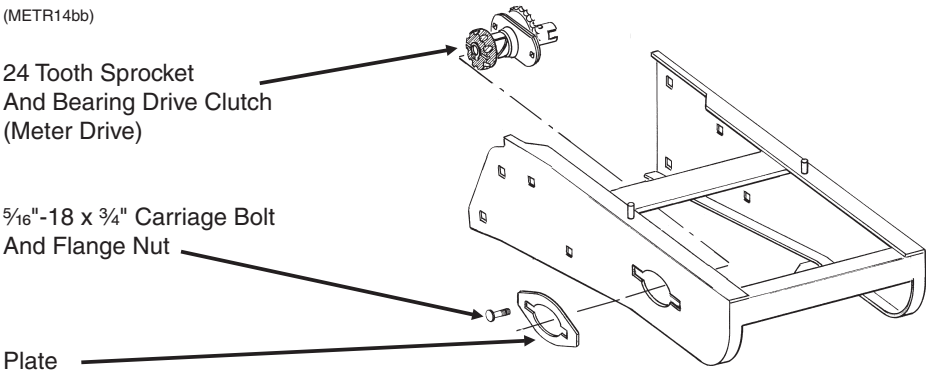
STEP 2 Install idler supplied in hardware bag as shown below.

(METR14aa)



STEP 3 Install meter drive clutch supplied in hardware bag as shown below.

(METR14bb)

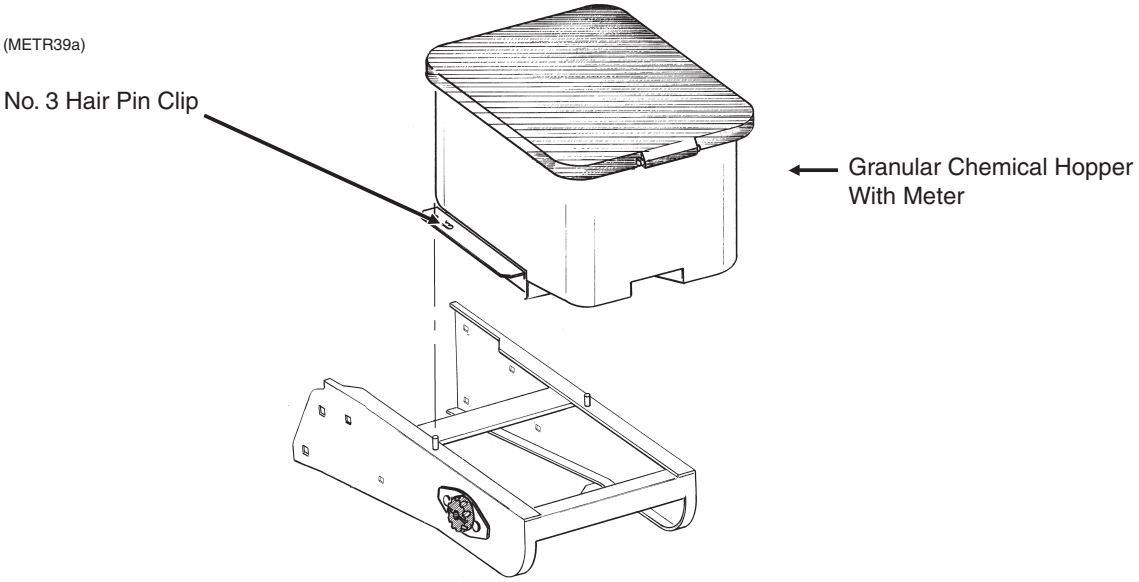


Granular Chemical Hopper With Meter, Hopper Panel Extension And Bander

STEP 4 Install granular chemical hopper as shown below.

Engage drive by rotating knob clockwise. To disengage drive turn knob counterclockwise. Align clutch drive coupler with meter shaft. Tighten hardware.

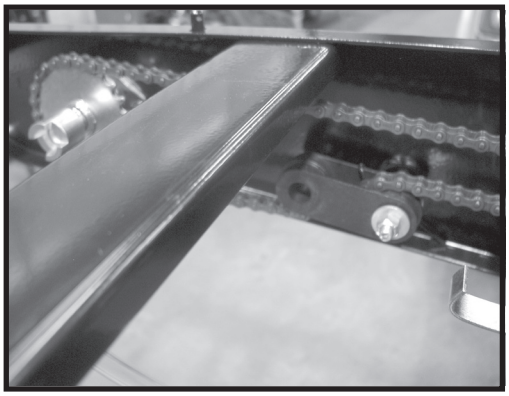
(METR39a)



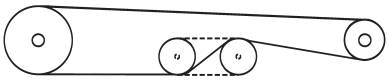
STEP 5 Install drive chains.

Remove hopper. Install granular chemical drive chain through idler and around 11 tooth sprocket of double sprocket in row unit drive clutch. Route chain through slot in hopper support and around granular chemical clutch sprocket. Use connecting link provided to couple chain.

D051705102



RH004 (RU57b)

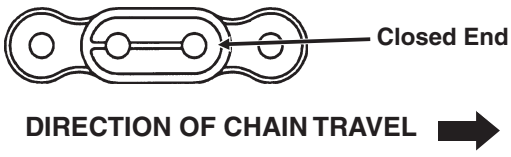


Granular Chemical Driven Sprocket

11 Tooth Sprocket On Seed Drive

(PLTR24)

NOTE: Make sure connector link is installed with closed end properly oriented as shown.



STEP 6 Reposition granular chemical hopper on hopper support panel and secure using two No. 3 hair pin clips.

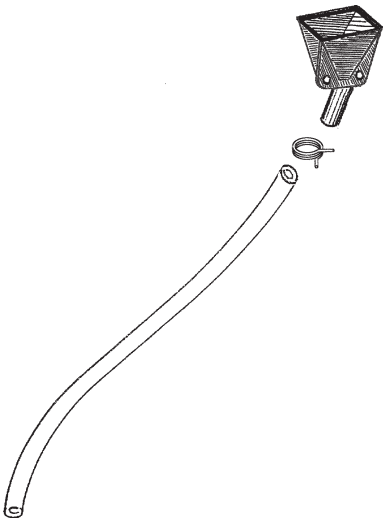
Granular Chemical Hopper With Meter, Hopper Panel Extension And Bander

STEP 7 Install granular chemical funnel.

The granular chemical funnel is designed to attach to the hopper support panel directly under the granular chemical meter using two No. 10 x ½" self tapping screws. The funnel can be installed facing forward or rearward, depending on application. The funnel is shown in the forward configuration for installation of 4 ½" slope-compensating banding or straight drop in-furrow placement.

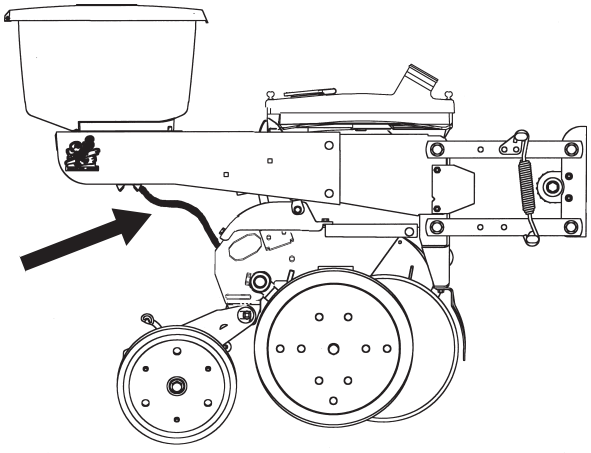
Slide the wire hose clamp onto the end of the hose. Install hose over funnel outlet and slide wire hose clamp into place over funnel outlet and hose to secure hose in place.

(RU101oo)

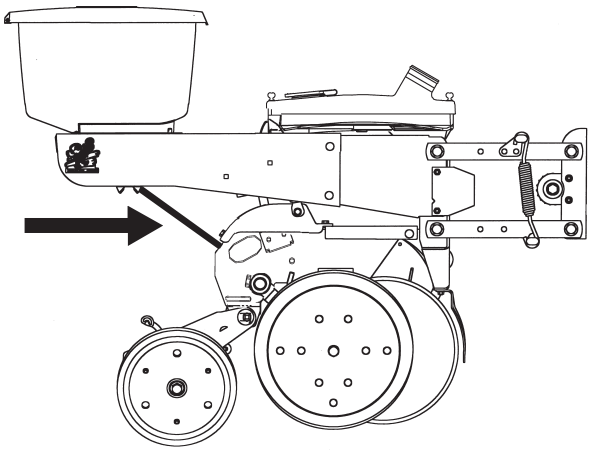


IMPORTANT: The hose should be shortened as required to eliminate bends, ensuring even distribution of chemical.

(RU143d/RU143e)



WRONG



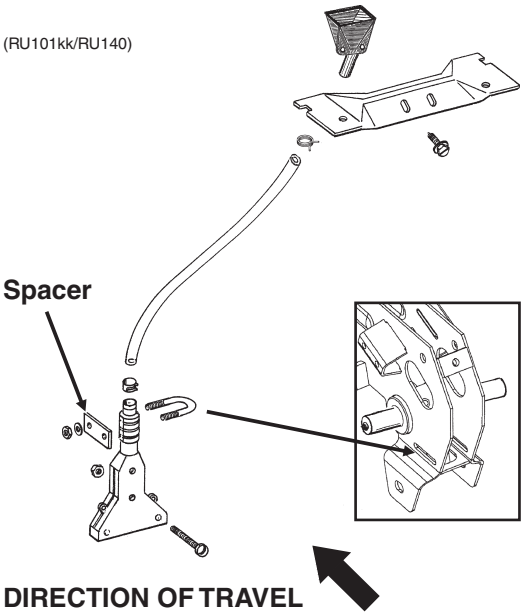
RIGHT

Install 4 ½" slope-compensating bander or straight drop in-furrow bracket as shown on next page.

Granular Chemical Hopper With Meter, Hopper Panel Extension And Bander

4 ½" SLOPE-COMPENSATING BANDING

(RU101kk/RU140)



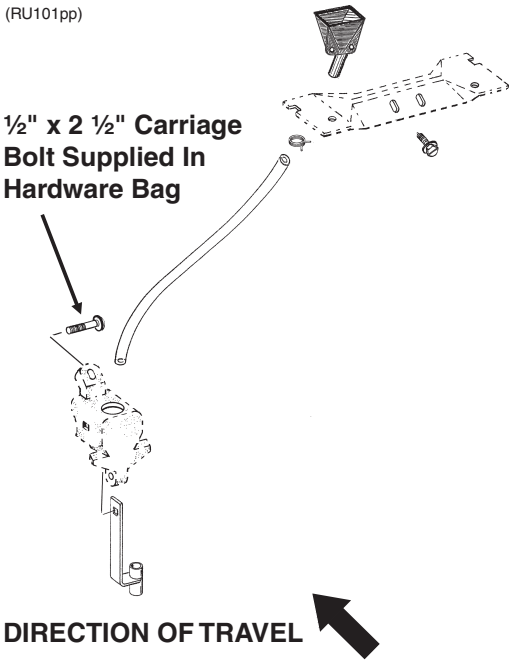
A. Install bottom of hose through shank cover, wheel arm stop and into slope-compensating bander. Install clamp at top of bander.

B. Install U-bolt through holes in shank as shown at left. Secure using ¼" USS washers, lock nuts and spacer. Place plastic spacer between bander and shank side to center the bander. DO NOT over tighten lock nuts. Over tightening will crush the bander.

NOTE: Hose should be shortened as required.

STRAIGHT DROP IN-FURROW PLACEMENT

(RU101pp)



A. Attach direct drop bracket to wheel arm stop as shown below and at left.

B. Insert bottom of hose through shank cover, wheel arm stop and into straight drop in-furrow bracket as shown.

NOTE: Replace ½" x 2 ¼" closing wheel attaching carriage bolt with ½" x 2 ½" carriage bolt to install straight drop bracket.

STEP 8 Install reflective decals on hopper panel extensions following instructions supplied with that package.

Row Unit Mounted No Till Coulter

Row Unit Mounted No Till Coulter
With 1" Bubbled Blade - 700-01026 (Style A)
((1)A5641 Coulter Arm Assembly (1)
D7803 1" Fluted Blade (8 Flutes)

Row Unit Mounted No Till Coulter
With ¾" Fluted Blade - 700-01062 (Style A)
(1)A5641 Coulter Arm Assembly
(1)D9254 ¾" Fluted Blade (13 Flutes)

Row Unit Mounted No Till Coulter
With 1" Fluted Blade - 700-01022 (Style A)
(1)A5641 Coulter Arm Assembly
1)D7804 1" Bubbled Blade

Row Unit Mounted No Till Coulter
With 1" Bubbled Blade - 700-01125 (Style B)
((1)A11522 Coulter Arm Assembly (1)
D7803 1" Fluted Blade (8 Flutes)

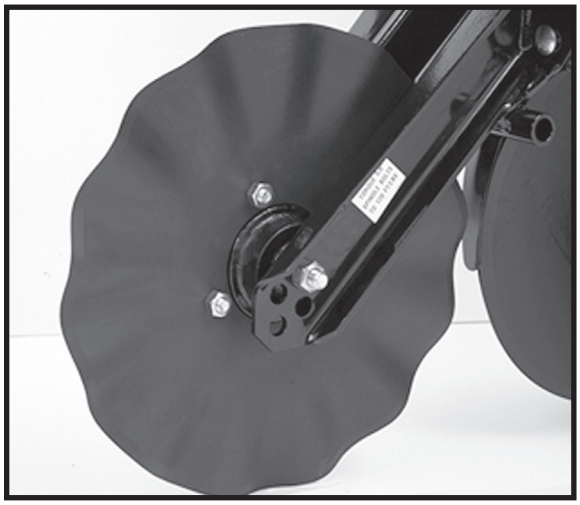
Row Unit Mounted No Till Coulter
With ¾" Fluted Blade - 700-01124 (Style B)
(1)A11522 Coulter Arm Assembly
(1)D9254 ¾" Fluted Blade (13 Flutes)

Row Unit Mounted No Till Coulter
With 1" Fluted Blade - 700-01126 (Style B)
(1)A11522 Coulter Arm Assembly
1)D7804 1" Bubbled Blade

Row unit mounted no till coulters with 1" bubbled,1" fluted or ¾" fluted blades may be used on pull row units and/or push row units. One package is required per row.

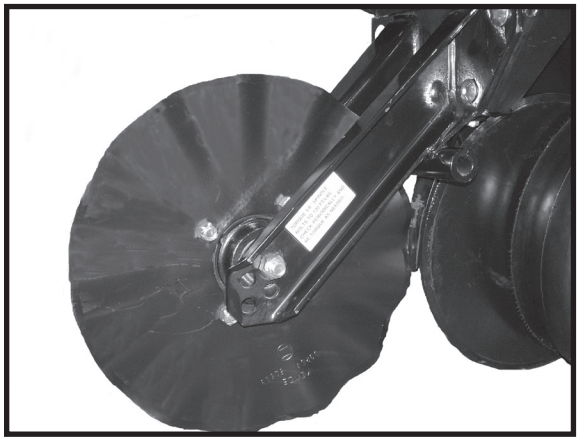
DANGER: Always install all safety lockup devices or lower machine to the ground before working under or around the machine.

LF212299-19a



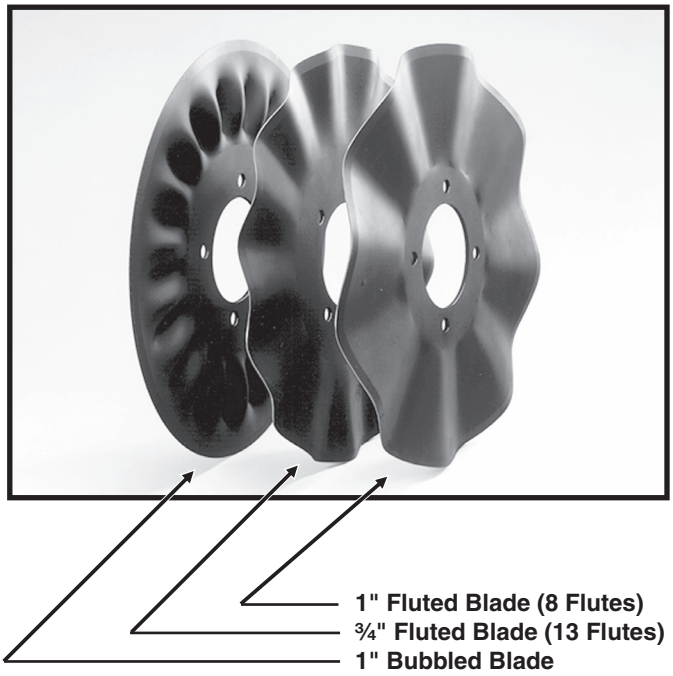
Style A Shown With ¾" Fluted Blade (13 Flutes) (Two Sleeves For Installing Coulter Mounted Residue Wheels)

D05170706a



Style B Shown With ¾" Fluted Blade (13 Flutes) (One Sleeve For Installing Coulter Mounted Residue Wheels)

LF02159609

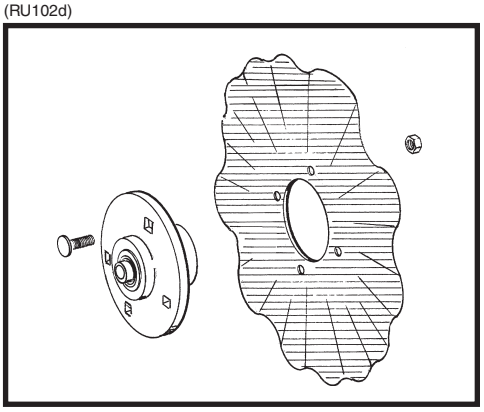


Row Unit Mounted No Till Coulter

STEP 1 Install coulter blade onto hub.

Remove ⅝" x 4" cap screw and remove hub from forked arm. Install coulter blade onto hub using carriage bolts and lock nuts. Tighten hardware alternately to avoid distorting the blade.

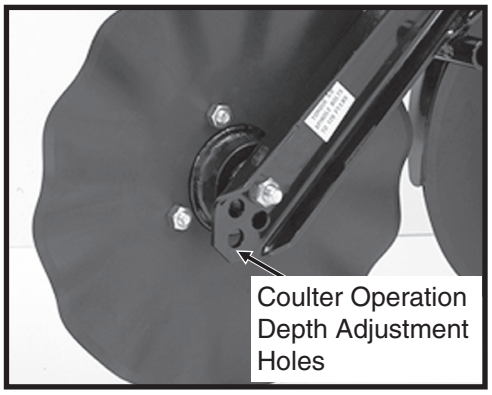
(RU102d)



STEP 2 Install hub and coulter blade assembly using the top adjustment hole in the forked arm.

Install hub and coulter blade assembly into the top adjustment hole in the forked arm using ⅝" x 4" cap screw and lock nut. (If bearing adapters have been removed from hub, reinstall into hub before installing hub into forked arm.) Torque ⅝" spindle bolt to 120 ft. lbs.

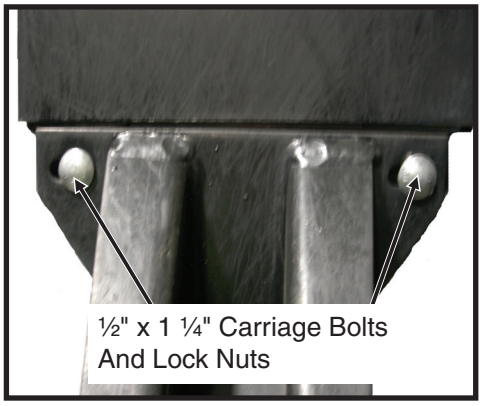
LF212299-19a



STEP 3 Attach coulter arm assembly to row unit face plate.

Raise the planter until the bottom of the toolbar is approximately 30" above the floor. Install support stands to safely support the planter until assembly is complete. Attach coulter arm assembly to row unit face plate using carriage bolts and lock nuts as shown. Do not tighten completely at this time.

D09070620



Shown Installed On Push Row Unit

STEP 4 Align coulter arm assembly.

Shift coulter arm assembly within the limits of the adjustment slots (See photo in STEP 3) until coulter is aligned with row unit double disc openers. Torque ½" bolts to 57 ft. lbs.

Important: Be sure down pressure options have been installed correctly as instructed in that section.

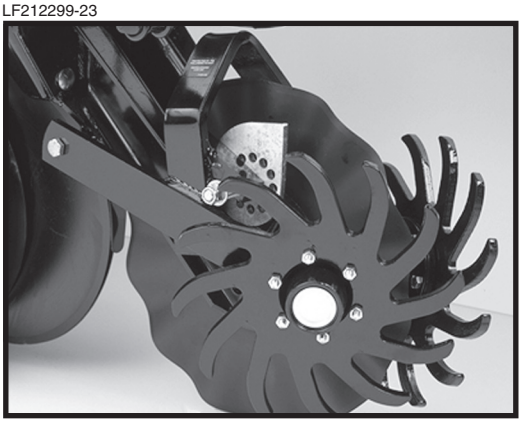
STEP 5 Remove support stands and lower planter to the ground.

Coulter Mounted Residue Wheels

Coulter Mounted Residue Wheels Attachment - 700-01069 (Style A)

(1)A7413 Wheel Mount Assembly
(1)A7446 Wheel Assembly, R.H.
(1)A7445 Wheel Assembly, L.H.
(1)A7414 Hardware Bag
(4)10213 Machine Bushing, ⅝" (.030" Thick)
(2)A8760 Weed Guard W/Roll Pin
(2)D1132 Dust Cap
(2)10010 Cap Screw, ⅝"-11 x 3"
(2)10503 Hex Jam Nut, ⅝"-11, Grade 2

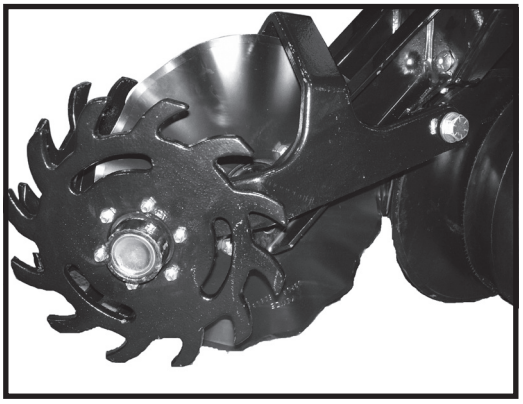
LF212299-23



Coulter Mounted Residue Wheels Attachment - 700-01127 (Style B)

(1)A11521 Wheel Mount Assembly
(1)A12236 Wheel Assembly, R.H.
(1)A12235 Wheel Assembly, L.H.
(1)A7414 Hardware Bag
(4)10213 Machine Bushing, ⅝" (.030" Thick)
(2)A8760 Weed Guard W/Roll Pin
(2)D1132 Dust Cap
(2)10010 Cap Screw, ⅝"-11 x 3"
(2)10503 Hex Jam Nut, ⅝"-11, Grade 2

D05170708a



The Coulter Mounted Residue Wheel Attachment is attached to the Row Unit Mounted No Till Coulter Attachment using one ½" x 9 ½" (Style A) or ¾" x 10 ½" (Style B)cap screw, sleeve or bushings and lock nut which allows the unit to free-float. Two holes in each residue wheel mounting bracket arm allow the tined wheels to be mounted interlocked or staggered. Depth adjustment is made using a spring-loaded cam and pin with 11 positions in ¼" increments. A high point on the cam allows the wheels to be locked up so they do not contact the ground.

Model 3700 planters with 20" or 22" row spacings require the use of row unit extension brackets (8 each of Order Code 700-01072 for 1 row) **at the wing lift wheel arms** when the planter is equipped with Coulter Mounted Residue Wheels. **Model 3800 planters** have row unit extension brackets on the 6 center row units as standard equipment. If equipped with Coulter Mounted Residue Wheels and Notched Single Disc Fertilizer Openers, row unit extension brackets (Order Code 700-01072 for 1 row) are required on **all inner and outer wing row units**.

DANGER: Always install all safety lockup devices or lower machine to the ground before working under or around the machine.

STYLE A Coulter Mounted Residue Wheels Attachment

STEP 1 Assemble wheels on arm.

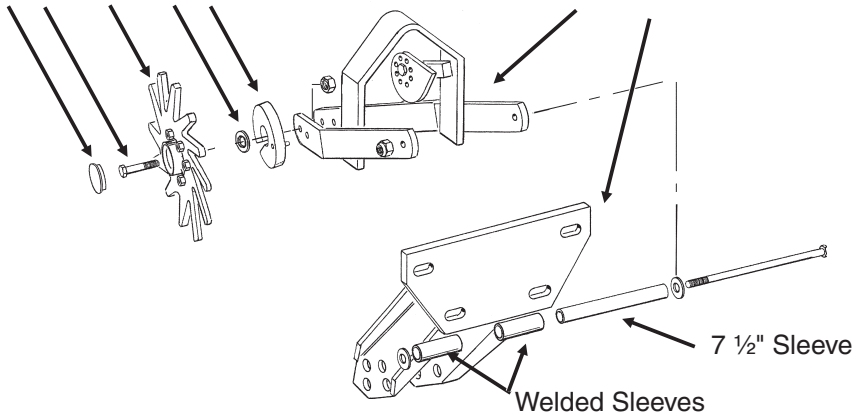
Install R.H. and L.H. wheel assemblies (interlocked or staggered) onto mount assembly using ⅝" x 3" cap screws, machine bushings (between wheel and weed guard), weed guard, hex jam nuts and dust caps supplied in the Hardware Bag. Torque cap screws to 110 ft. lbs. Tighten jam nuts securely.

STEP 2 Install wheel arm assembly on coulter arm.

Raise the planter to transport position (except 3140) and install all safety lockup devices. Insert 7 ½" sleeve into welded sleeves on no till coulter arm. Attach the mount assembly onto the no till coulter arm using the ½" x 9 ½" cap screw, ½" hardened washers and ½" lock nut supplied with the mount assembly. Torque hardware to 57 ft. lbs.

NOTE: Opening in weed guard must point down.

(RU104r)



STYLE B Coulter Mounted Residue Wheels Attachment

STEP 1 Assemble wheels on arm.

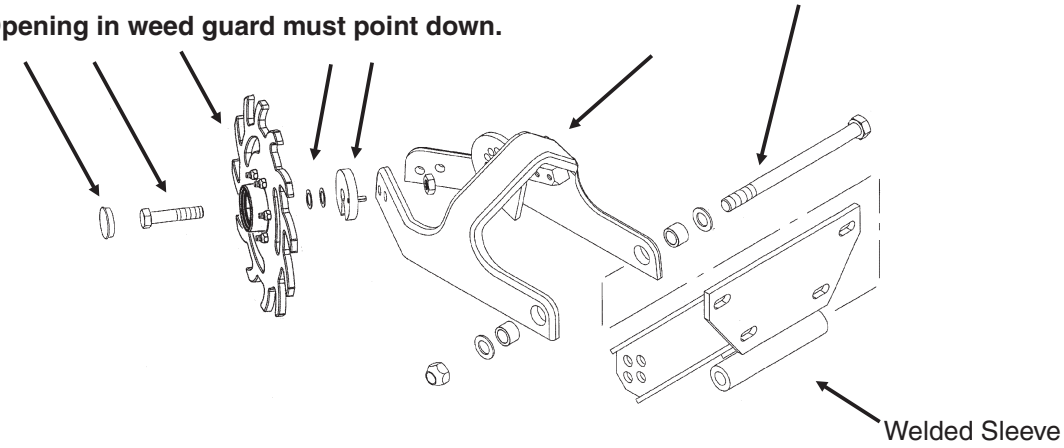
Install R.H. and L.H. wheel assemblies (interlocked or staggered) onto mount assembly using ⅝" x 3" cap screws, machine bushings (between wheel and weed guard), weed guard, hex jam nuts and dust caps supplied in the Hardware Bag. Torque cap screws to 110 ft. lbs. Tighten jam nuts securely.

STEP 2 Install wheel arm assembly on coulter arm.

Raise the planter to transport position (except 3140) and install all safety lockup devices. Attach the mount assembly onto the no till coulter arm using the ¾" x 10 ½" cap screw, ¾" long bushings, ¾" SAE washers and ¾" lock nut supplied with the mount assembly. Torque hardware to 200 ft. lbs.

NOTE: Opening in weed guard must point down.

(RU153aa)



Row Unit Mounted Disc Furrower

Row Unit Mounted Disc Furrower With Solid Disc Blades - 700-01037 (7181X)

(1)A5718 Support Arm
(1)A5896 Mounting Bracket Assembly
- (1)10585 Cap Screw, ½"-13 x 3 ¼"
- (1)10536 Pin
- (4)10216 Washer, ½"
- (5)10111 Lock Nut, ½"-13
- (4)10017 Cap Screw, ½"-13 x 1 ½"
- (1)10503 Jam Nut, ⅝"-11
- (4)D7889 Bushing
- (2)D7890 Link
- (1)10597 Set Screw, ⅝"-11 x 2 ¼"
- (1)A5715 Anchor
- (1)A5719 Mounting Bracket

(1) A5897 Hardware Bag
- (2)D7817-01 Spacer, ¾"
- (2)D7817-04 Spacer, ½"
- (2)10039 Cap Screw, ½"-13 x 1 ¾"
- (2)10318 Cap Screw, ⅝"-11 x 4 ½"
- (2)D7805 Washer, ⅝"
- (2)10107 Lock Nut, ⅝"-11
- (2)D7889 Bushing
- (2)10111 Lock Nut, ½"-13
- (2)D14674 Special Washer, ½", Hardened

(2)D1132 Dust Cap
(2)A5926 Solid Disc/Hub Assembly
- (6)10106 Hex Nut, 5⁄16"-18
- (6)10572 Slotted Machine Screw
- (1)D7823 Solid Disc Blade
- (1)A5654 Hub Assembly

Row Unit Mounted Disc Furrower With Notched Disc Blades - 700-01029 (7148X)

(1)A5718 Support Arm
(1)A5896 Mounting Bracket Assembly
- (1)10585 Cap Screw, ½"-13 x 3 ¼"
- (1)10536 Pin
- (4)10216 Washer, ½"
- (5)10111 Lock Nut, ½"-13
- (4)10017 Cap Screw, ½"-13 x 1 ½"
- (1)10503 Jam Nut, ⅝"-11
- (4)D7889 Bushing
- (2)D7890 Link
- (1)10597 Set Screw, ⅝"-11 x 2 ¼"
- (1)A5715 Anchor
- (1)A5719 Mounting Bracket

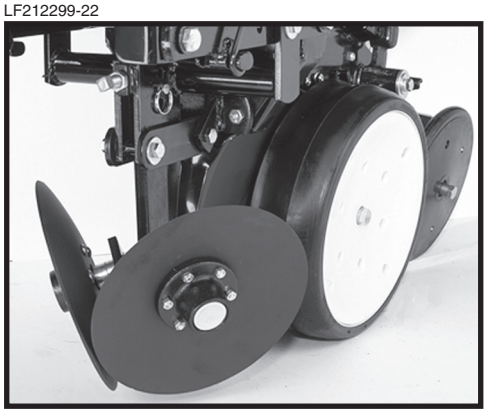
(1) A5897 Hardware Bag
- (2)D7817-01 Spacer, ¾"
- (2)D7817-04 Spacer, ½"
- (2)10039 Cap Screw, ½"-13 x 1 ¾"
- (2)10318 Cap Screw, ⅝"-11 x 4 ½"
- (2)D7805 Washer, ⅝"
- (2)10107 Lock Nut, ⅝"-11
- (2)D7889 Bushing
- (2)10111 Lock Nut, ½"-13

(2)D14674 Special Washer, ½", Hardened
(2)D1132 Dust Cap
(2)A5655 Notched Disc/Hub Assembly
- (6)10106 Hex Nut, 5⁄16"-18
- (6)10572 Slotted Machine Screw
- (1)D8307 Notched Disc Blade
- (1)A5654 Hub Assembly

The row unit mounted disc furrower may be equipped with either 12" solid or 12" notched disc blades. One package is required per row.

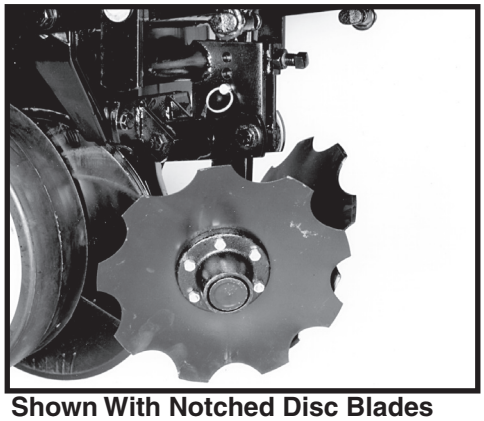
DANGER: Always install all safety lockup devices or lower machine to the ground before working under or around the machine.

LF212299-22



Shown With Solid Disc Blades

61658-37



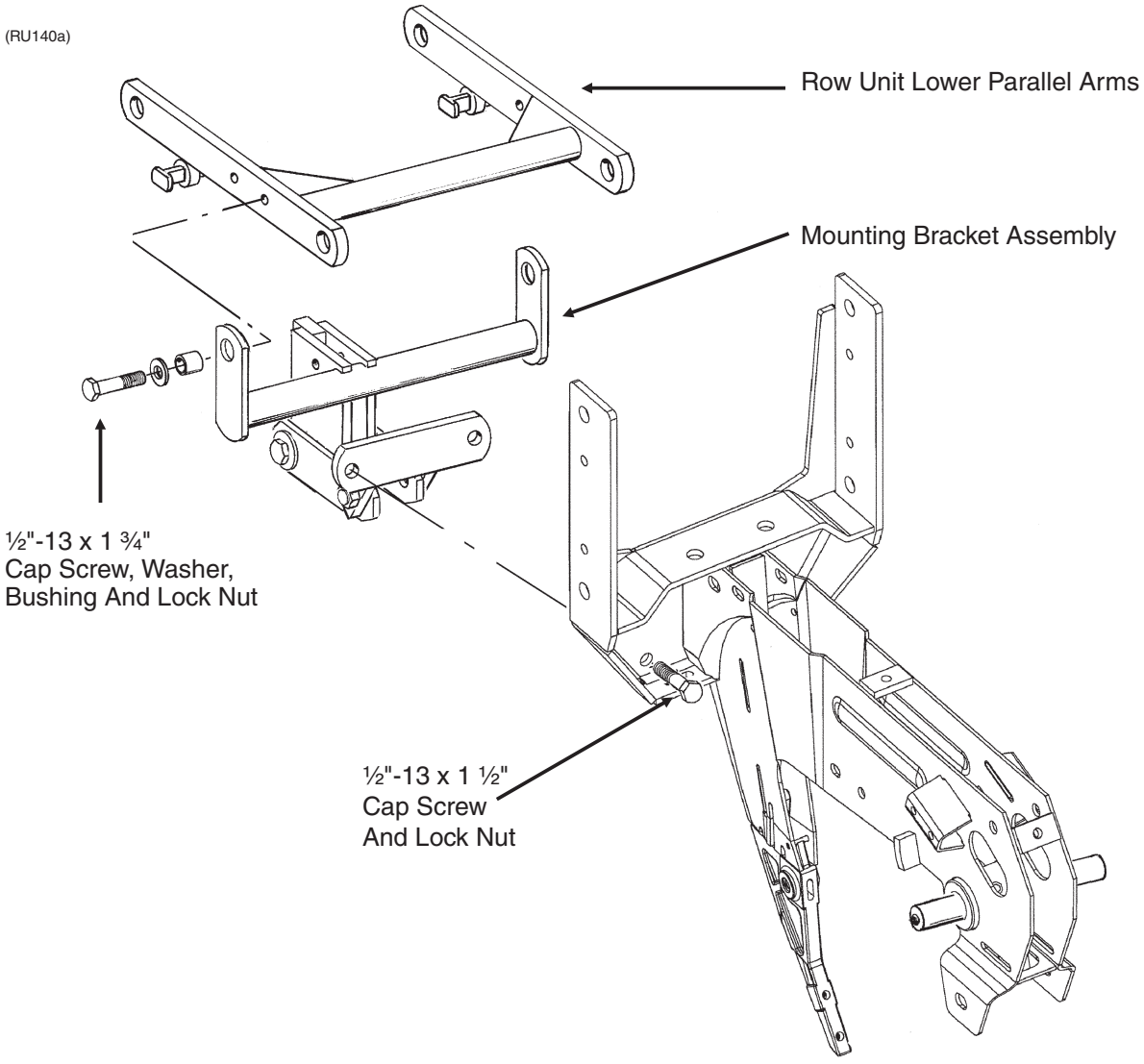
Shown With Notched Disc Blades

STEP 1 Install support stands.

Raise the planter until the bottom of the toolbar is approximately 30" above the floor. Install support stands to safely support the planter until assembly is complete.

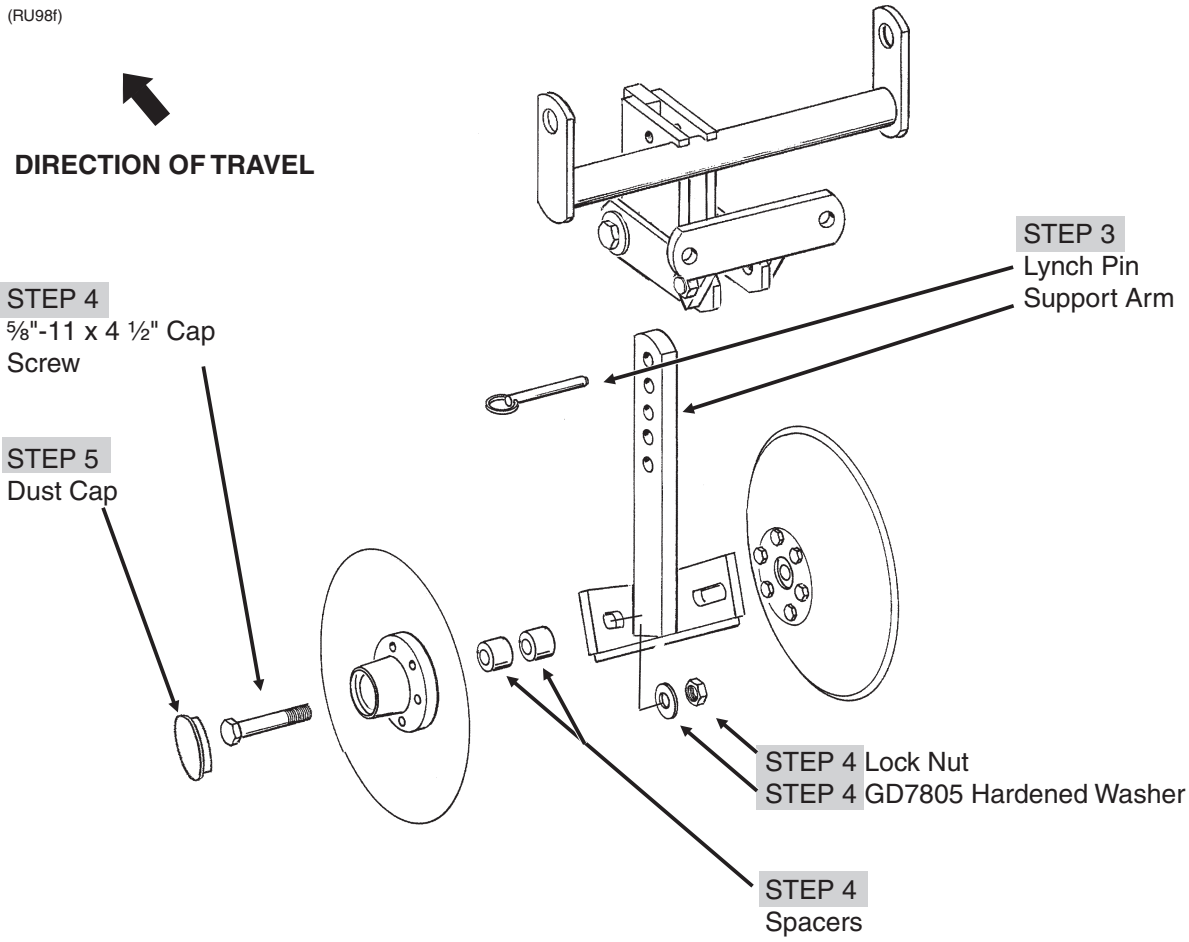
STEP 2 Attach lower anchor portion of mounting bracket assembly to row unit face plate.

Attach lower anchor portion of mounting bracket assembly to row unit face plate using two ½" x 1 ½" cap screws and lock nuts. Attach upper portion of mounting bracket assembly using rear hole in the row unit lower parallel arms. On each lower parallel arm install one ½" x 1 ¾" cap screw and washer supplied in Hardware Bag through mounting bracket then through hole in lower parallel arm. Install bushing and ½" lock nut. Torque all mounting hardware to 57 ft. lbs.



STEP 3 Install support arm.

Remove lynch pin from shipping storage position in mounting bracket assembly and slide support arm into place in mounting bracket assembly with the “V” in the angle pointed forward. Install lynch pin to secure support arm in shallowest position. See Operator & Parts Manual for additional information.



STEP 4 Install disc blade/hub assembly.

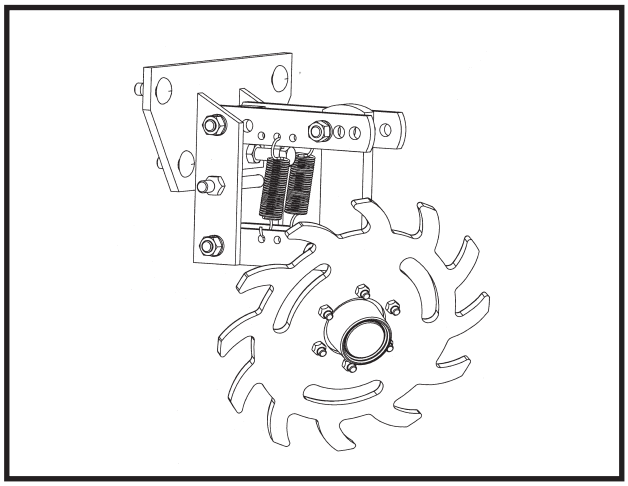
Using ⅝" x 4 ½" cap screws, hardened washers (GD7805), ½" and ¾" spacers and lock nuts from Hardware Bag, install disc blade/hub assembly onto each side of “V” angle. Disc blades can be installed edge to edge or with R.H. or L.H. blade leading. If using leading set-up, use an equal number of R.H. and L.H. attachments to minimize draft. Adjust all blades equally and torque mounting hardware to specs. See Operator & Parts Manual for additional information.

STEP 5 Install dust cap onto each hub assembly.

STEP 6 Remove support stands and lower planter to the ground.

Row Unit Mounted Residue Wheel

(A12685)



Row Unit Mounted Residue Wheel - 700-01064 (A12685)

The row unit mounted residue wheel attachment is installed in front of the pull row unit. One package is required per row.

DANGER: Always install all safety lockup devices or lower machine to the ground before working under or around the machine.

STEP 1 Attach row unit mounted residue wheel attachment to row unit face plate.

Raise the planter until the bottom of the toolbar is approximately 30" above the floor. Install support stands to safely support the planter until assembly is complete. Attach row unit mounted residue wheel attachment to row unit face plate using ½" carriage bolts and lock nuts supplied with the attachment.

STEP 2 Center residue wheel ahead of double disc openers and torque bolts to 57 ft. lbs.

STEP 3 Remove support stands and lower planter to the ground.

See “Row Unit Mounted Residue Wheel” in the row unit operation section in the Operator & Parts Manual for additional information.

OPTIONAL ATTACHMENTS
Frame Mounted Coulter

Frame Mounted Coulter
With 1" Bubbled Blade - 700-01088
(1)A9135 Frame Mounted Coulter
(1)D7804 1" Bubbled Blade

Frame Mounted Coulter
With 1" Fluted Blade - 700-01087
(1)A9135 Frame Mounted Coulter
(1)D7803 1" Fluted Blade (8 Flutes)

Frame Mounted Coulter
With ¾" Fluted Blade - 700-01086
(1)A9135 Frame Mounted Coulter
(1)D9254 ¾" Fluted Blade (13 Flutes)

The frame mounted coulter is designed to allow necessary spring down pressure on the coulter for maximum penetration while exerting less shock load on the row unit.

DANGER: Always install all safety lockup devices or lower machine to the ground before working under or around the machine.

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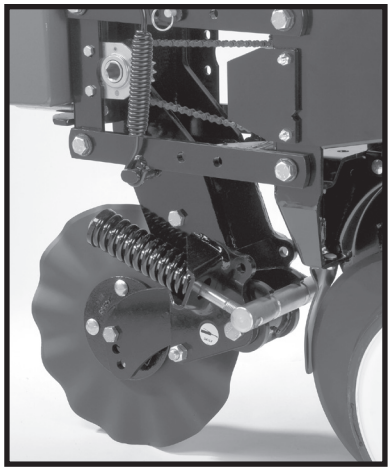

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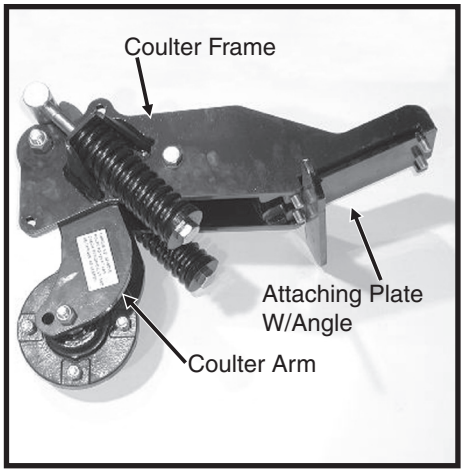

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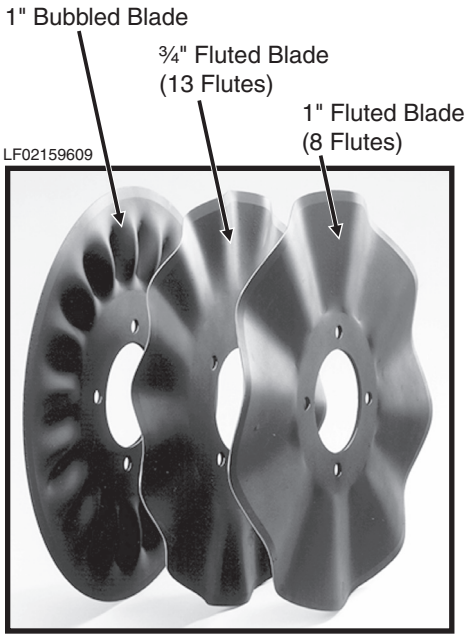


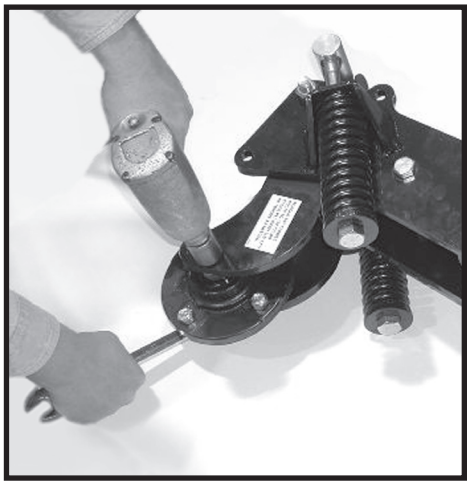
STEP 1 Raise the planter until the bottom of the toolbar is approximately 23" above the floor.

Remove seed hoppers from row units to allow easier access for installation of coulters. Reinstall hoppers after installation.

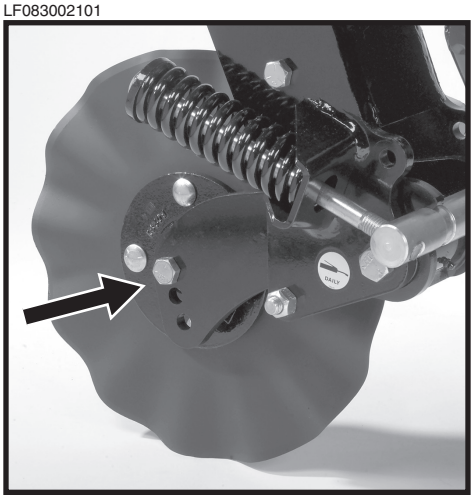
STEP 2 Install blade.

Remove the hub assembly from the coulter assembly and install blade.

D03210207b



LF083002101



STEP 3 Reinstall hub/blade assembly into the coulter arm.

Reinstall hub/blade assembly into the coulter arm using the top hole. Torque to 120 ft. lbs.

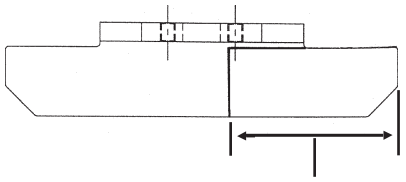
STEP 4 Remove the attaching plate w/angle.

D03210203a

Remove the attaching plate w/angle from the coulter assembly.

NOTE: A portion of the angle on the attaching plate will need to be trimmed on the <u>first row out from each wing hinge on 3650 planters</u> as shown below.

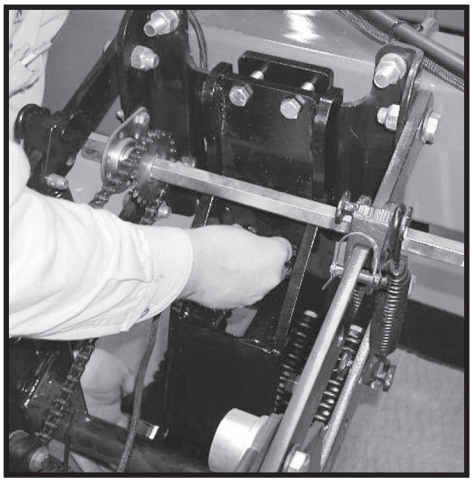
(A9844)



Trim 5 ½"

R.H. Side Shown

D03060306a



STEP 5 Install coulter assembly.

Using an overhead crane or hoist, position the coulter assembly onto the row unit mounting support plate. Slide the attaching plate w/angle up in between the toolbar and the existing row unit mounting support plate. Install the four ½"-13 x 1 ¾" hex head cap screws.

STEP 6 Center coulter blade with row unit "V" opener disc blades and tighten mounting bolts evenly.

Torque mounting bolts to 57 ft. lbs.

FRAME MOUNTED COULTER OPERATION

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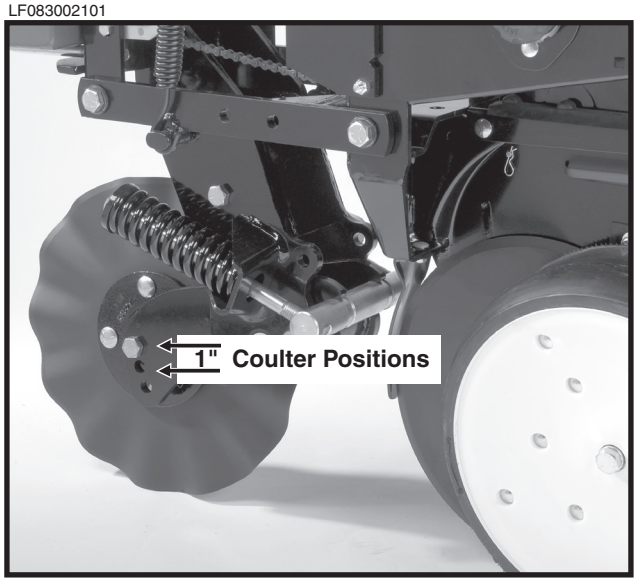
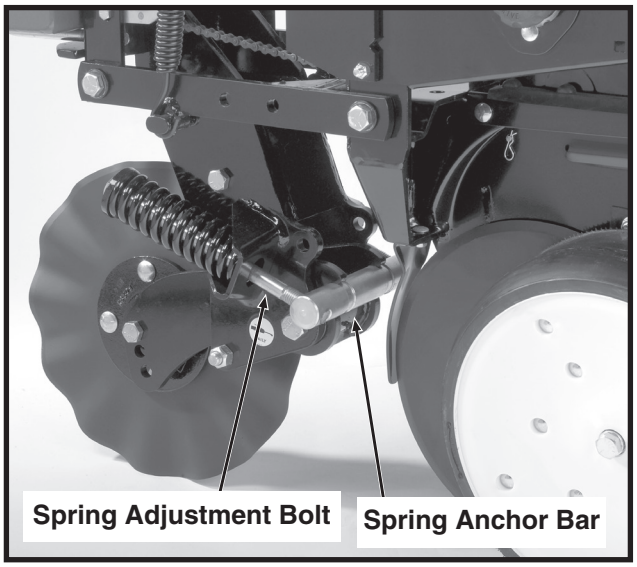


Frame mounted coulters with 1" bubbled, 1" fluted (8 flutes) or ¾" fluted (13 flutes) blades may be used on pull row units only. (Not compatible with push row units.)

The frame mounted coulter is designed to apply necessary spring down pressure on the coulter for maximum penetration while exerting less shock load on the row unit.

The initial location of the coulter blade is in the top hole. The blade can be relocated to one of the lower two holes (1" increments) as wear occurs or if deeper operation of the blade is desired.

LF083002101



DOWN PRESSURE ADJUSTMENT

Down force adjustment is made by tightening or loosening the two spring adjustment bolts. With the planter in raised position, turn the bolts clockwise to increase down pressure or counterclockwise to decrease down force. Set both springs equally.

Down force on the blade is shown below in lbs.

End Of Spring Adjustment Bolt Flush With Spring Anchor Bar (Shown Above)	End Of Spring Adjustment Bolt Extended ½" Through Spring Anchor Bar	All Threads Used (Maximum)
275 lbs.	400 lbs.	500 lbs.

NOTE: Avoid setting down pressure higher than is required for consistent soil penetration. Excessive pressure will increase the chances of damage to coulter components when the coulter strikes an obstacle.

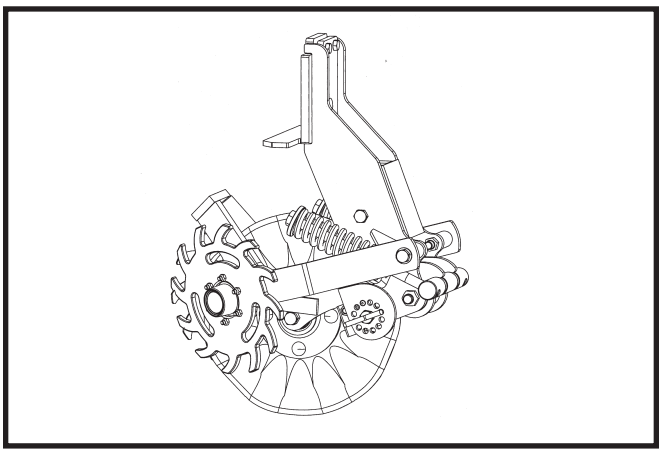
Residue Wheels For Use On Frame Mounted Coulter

Residue Wheels - 700-01089
(For Use With Frame Mounted Coulter

(1)A9866 Wheel Mount Assembly
(1)A12236 Wheel Assembly, R.H.
(1)A12235 Wheel Assembly, L.H.
(1)A9863 Hardware Bag
- (4)10213 Bushing
- (2)10010 Cap Screw, ⅝"-11 x 3"
- (2)10503 Hex Jam Nut, ⅝"-11, Grade 2
- (1)10011 Cap Screw, ⅝"-11 x 5 ½"
- (1)10005 Cap Screw, ⅝"-11 x 1 ¾"
- (2)D1132 Dust Cap
- (2)A9862 Weed Guard W/Spring Pin
- (1)B0218 Bushing

(1)A9898 Cam Assembly

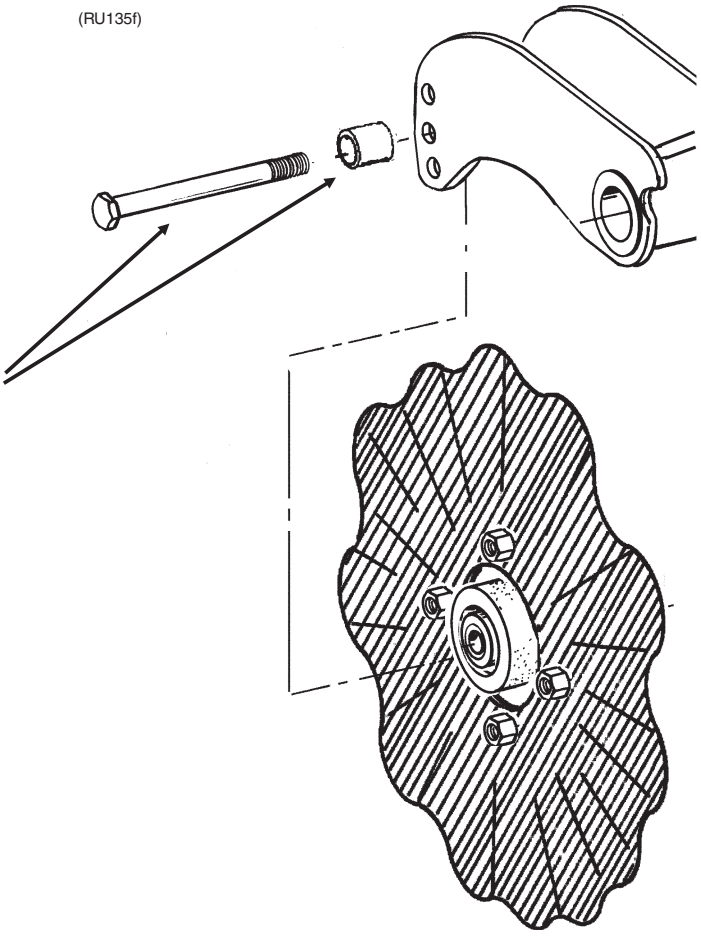
RU155a



This package is designed to be installed on the frame mounted coulter attachment.

DANGER: Always install all safety lockup devices or lower machine to the ground before working under or around the machine.

(RU135f)



STEP 1 Raise planter. Replace coulter spindle cap screw.

Raise the planter to transport position and install all safety lockup devices.

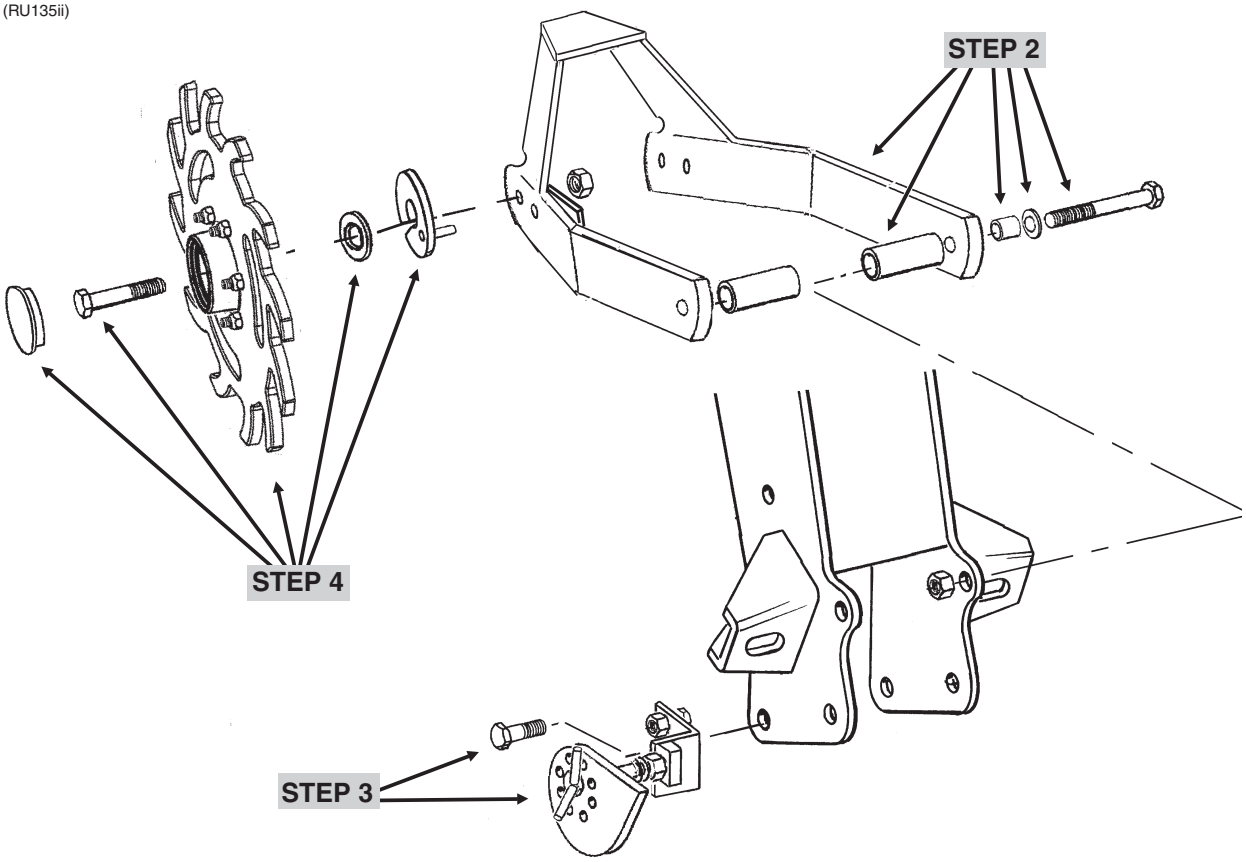
Remove the ⅝" x 5" cap screw that attaches the disc blade and replace it with the ⅝" x 5 ½" cap screw and bushing supplied in the Hardware Bag. Bushing must be installed on L.H. side of coulter arm. Reuse existing lock nut.

Residue Wheels For Use On Frame Mounted Coulter

STEP 2 Install wheel mount assembly onto frame mounted coulter.

Install wheel mount assembly onto frame mounted coulter as illustrated below using hardware, sleeves and bushings supplied with the wheel mount assembly.

(RU135ii)



STEP 3 Install cam assembly onto frame mounted coulter.

Install cam assembly onto frame mounted coulter located as shown above using ⅝" x 1 ¾" cap screw supplied in Hardware Bag. Reuse existing lock nut.

STEP 4 Install wheel assembly onto wheel mount.

Install wheel assembly, machine bushings and weed guard onto each side of wheel mount assembly as shown above using ⅝" x 3" cap screws, machine bushings and hex jam nuts supplied in Hardware Bag. Install dust cap supplied in Hardware Bag. Torque cap screws to 110 ft. lbs. Torque jam nuts to 70 ft. lbs.

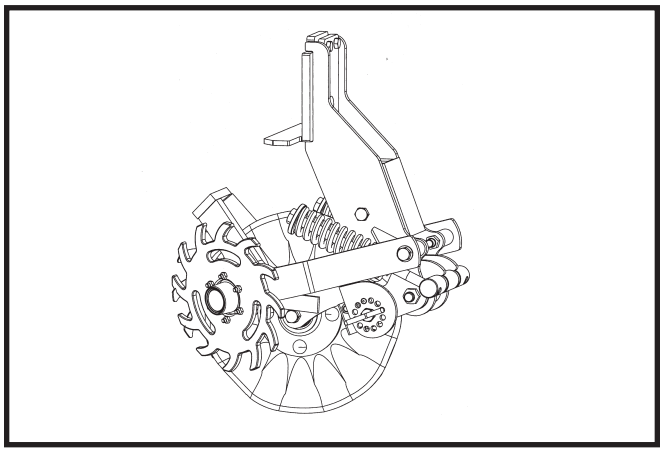
NOTE: Opening in weed guard must point down.

Residue Wheels For Use On Frame Mounted Coulter

RESIDUE WHEELS OPERATION
(For Use With Frame Mounted Coulter)

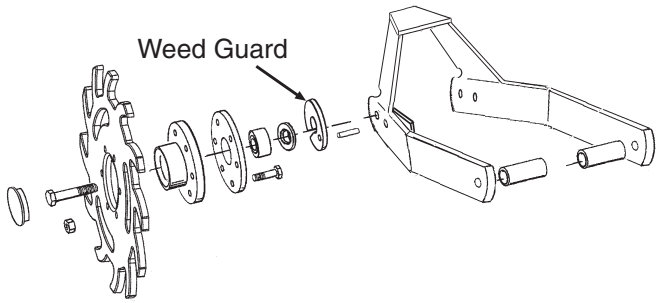
The residue wheels for use with the frame mounted coulter may be used on pull row units only.

RU155a



The residue wheels are attached to the frame mounted coulter with two cap screws and sleeves allowing the unit to free-float. A 2-position spindle bolt mounting allows the tined wheels to be mounted interlocked or staggered. Depth adjustment is made using a spring-loaded cam and pin with 11 positions in ¼" increments. A high point on the cam allows the wheels to be locked up so they do not contact the ground. A weed guard, located on the inboard side of each wheel, aids in the prevention of weed wrap which can cause premature bearing failure.

(RU135kk)



NOTE: Opening in weed guard must point down.

FINAL INSPECTION

- ❑ Lubricate per instructions (See Operator & Parts Manual).
- ❑ Check for loose bolts, nuts, etc.
- ❑ Check all drive chains for proper alignment.
- ❑ Make sure all drive shafts rotate freely.
- ❑ Make sure all row units are mounted correctly, properly spaced and that they are squared on the toolbar.

Refer to planter assembly manual for additional information and "Predelivery/Delivery Checklist".

DELIVERY CHECKLIST

At the time the planter is delivered, the following checklist is to be used as a reminder of very important information which should be conveyed to the customer. Check off each item as it is fully explained to the customer.

- ❑ Advise the customer that the life expectancy of this or any other machine is dependent on regular lubrication as directed in the Operator & Parts Manual.
- ❑ Tell the customer about all applicable safety precautions.
- ❑ Along with the customer, check to be sure the reflective decals and SMV sign are clearly visible with the planter in transport position and attached to the tractor. Check to be sure safety/warning lights are in working condition. Tell the customer to check federal, state/provincial and local regulations before towing or transporting on a road or highway.
- ❑ Give the Operator & Parts Manual to the customer and explain all operating adjustments.
- ❑ Read warranty to customer.
- ❑ Complete Warranty And Delivery Report form.

AFTER DELIVERY CHECKLIST

The following is a list of items we suggest to check during the first season of use of the equipment.

- ❑ Check with the customer as to the performance of the planter.
- ❑ Review with the customer the importance of proper maintenance and adherence with all safety precautions.
- ❑ Check for parts that may need to be adjusted or replaced.
- ❑ Check to be sure all safety warning signs (decals), reflective decals and SMV sign are correctly located and legible. Replace if damaged or missing.
- ❑ Check to be sure safety/warning lights are working properly.