

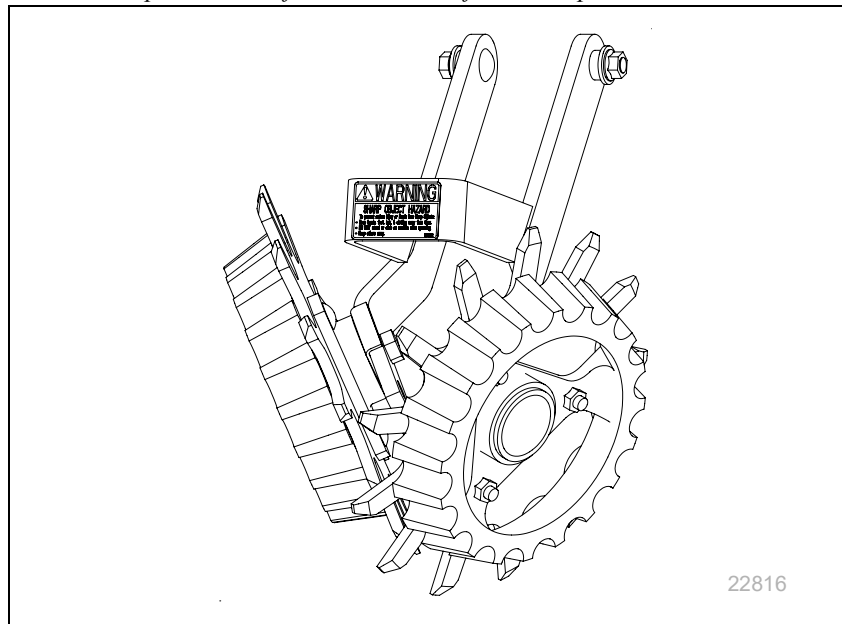
Installation, Operation, and Parts Manual

207-092S, 207-093S, 207-098S
207-213K, 207-215K, 207-216K, and 207-305K

2008+ Unit-Mount Row Cleaners
and 207-221A Field Update Kit



Read the operator manual entirely. When you see this symbol, the subsequent instructions and warnings are serious - follow without exception. Your life and the lives of others depend on it!



Illustrations may show optional equipment not supplied with standard unit or may depict row units and/or implements that differ from yours.

ORIGINAL INSTRUCTIONS



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204-085M-A



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F Important Safety Information

Look for Safety Symbol

The SAFETY ALERT SYMBOL indicates there is a potential hazard to personal safety involved and extra safety precaution must be taken. When you see this symbol, be alert and carefully read the message that follows it. In addition to design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence, and proper training of personnel involved in the operation, transport, maintenance, and storage of equipment.



Be Aware of Signal Words

Signal words designate a degree or level of hazard seriousness.

DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal word is limited to the most extreme situations, typically for machine components that, for functional purposes, cannot be guarded.



WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.



CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.



Be Familiar with Safety Decals

Read and understand “Safety Reflectors and Decals” in your operator manual.

Read all instructions noted on the decals.



Prepare for Emergencies

Be prepared if a fire starts.

Keep a first aid kit and fire extinguisher handy.

Keep emergency numbers for doctor, ambulance, hospital, and fire department near phone.



Practice Safe Maintenance

Understand procedure before doing work. Use proper tools and equipment. Refer to this manual for additional information.

Work in a clean, dry area.

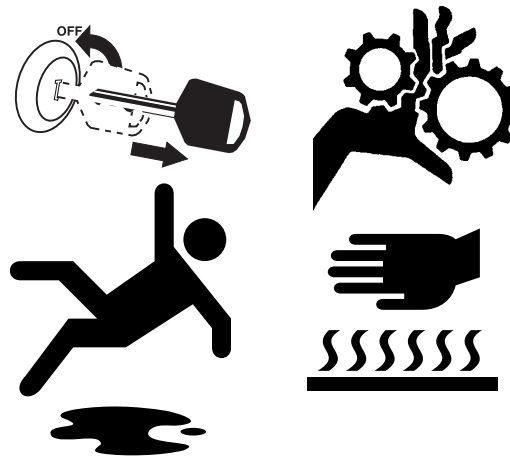
Wear gloves when handling row cleaner tines.

Make sure all moving parts have stopped and all system pressure is relieved.

Inspect all parts. Make sure parts are in good condition and installed properly.

Remove buildup of grease, oil, or debris.

Remove all tools and unused parts from implement before operation.



Safety At All Times

Thoroughly read and understand the instructions in this manual before operation. Read all instructions noted on the safety decals.

Be familiar with all implement functions.

Operate machinery from the driver's seat only.

Do not leave implement unattended with tractor engine running.

Wear snug-fitting clothing to avoid entanglement with moving parts.



Safety Reflectors and Decals

Your row cleaner comes equipped with safety decals in place. They were designed to help you safely install, operate, and maintain your row cleaner.

Read and follow decal directions.

Keep all safety decals clean and legible.

Replace all damaged or missing decals. Order new decals from your Great Plains dealer. Refer to this section for proper decal placement.

When ordering new parts or components, also request corresponding safety decals.

To install new decals:

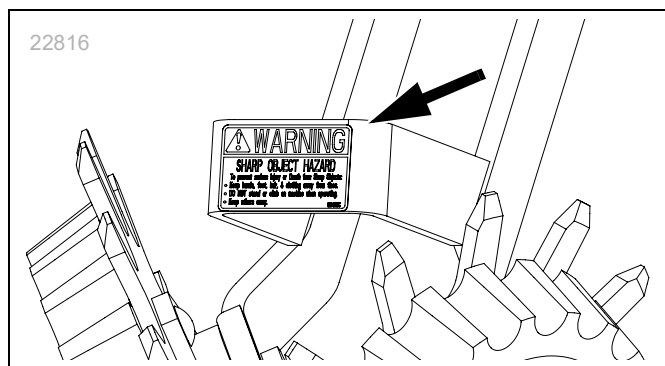
1. Clean the area on which the decal is to be placed.
2. Peel backing from decal. Press firmly on surface, being careful not to cause air bubbles under decal.

Warning: Sharp Object Hazard



818-525C

Top of RC arm gusset;
1 total per RC



Introduction

Great Plains welcomes you to its growing family of new product owners. Your Unit-Mount Row Cleaners (UMRC) have been designed with care and built by skilled workers using quality materials. Proper setup, maintenance, and safe operating practices will help you get years of satisfactory use from these accessories.

Description of Unit

The row accessories covered by this manual are rigid toothed wheel row cleaners. They are provided as a pivoting assembly that attaches to either its own mount (UMRC) or to a unit-mount coulter (UMC-RC). In either case, the row cleaner assembly is coupled to the individual row unit (opener body). It follows the terrain with the row unit, and raises and lowers with the row unit. Adjustments are provided for setting the amount of residue clearing desired.

Intended Usage

Use row cleaners on supporting implements equipped with Great Plains 25 Series row units or any implements with unit-mount coulters (UMCs). Use the row cleaners for residue management with production-agriculture crops only. Do not modify row cleaner for use with attachments other than those approved by Great Plains.

Document Family

204-085M-A Installation, Operation, and Parts Manual (this document)

For routine operation and maintenance, you also need to have your implement Operator and Parts Manuals.

The information in this manual is current at printing. Some parts may change to assure top performance.

Supporting Implements for UMRC

Tighter row spacings and twin-row spacings do not allow dual row cleaners. Some implements may only support UMRC or UMC-RC only.

The row cleaners may not be compatible with other planters and drills that have 25 Series row units. In particular, 3-Point 25 Series drills often have insufficient forward clearance to permit UMRC or UMC-RC use.

Using This Manual

This manual familiarizes you with safety, assembly, operation, adjustments, troubleshooting, and maintenance. Read this manual and follow the recommendations to help ensure safe and efficient operation.

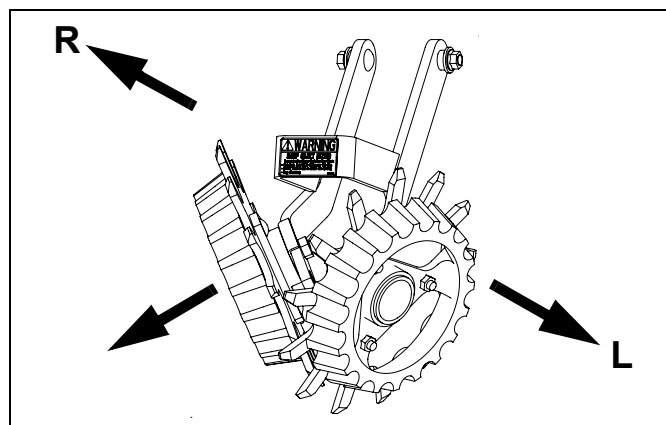


Figure 1:
Row Cleaner Arm

22816

Definitions

The following terms are used throughout this manual.

Right-hand and left-hand as used in this manual are determined by facing the direction the machine will travel while in use unless otherwise stated.

NOTICE

Paragraphs in this format present a crucial point of information related to the current topic. Read and follow the directions to:

- remain safe,
- avoid serious damage to equipment, and
- ensure desired field results.

Note: Paragraphs in this format provide useful information related to the current topic.

Call-Outs

- ① to ⑨ Single-digit callouts identify components in the currently referenced Figure or Figures. These numbers may be reused for different items from page to page.
- ⑪ to ⑥4 Two-digit callouts reference new parts from the new parts lists beginning on page 21. The descriptions match those on the parts, cartons, bags or item tags, as well as descriptions your updated Parts Manual.

Check with your Great Plains dealer.

Kits Covered by this Manual

Individual Row Kits

Part Number	Description
Single Row UMRC Kits	
207-305K	SINGLE RC KIT
207-213K	DOUBLE ROW CLEANER UNIT
207-215K	LH ROW CLEANER UNIT
207-216K	RH ROW CLEANER UNIT
Individual UMC-RC Row Cleaner Kits	
207-092S	SINGLE ARM RC ASM LH
207-093S	SINGLE ARM RC ASM RH
207-098S	DOUBLE ARM RC ASM
UMRC Update Kit	
207-221A	UMRC MNT WELDMENT FIELD UPDATE

Owner Assistance

If you need customer service or repair parts, contact a Great Plains dealer. They have trained personnel, repair parts and equipment specially designed for Great Plains products.

Your machine's parts were specially designed and should only be replaced with Great Plains parts. Always use the serial and model number when ordering parts from your Great Plains dealer. The serial-number plate is located on the front face of the left vertical tube of the 3-point frame.

Record your row cleaner kit model number here for quick reference:

Model Number: _____

Date Purchased: _____

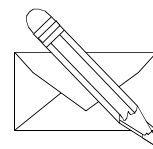
Your Great Plains dealer wants you to be satisfied with your updated machine. If you do not understand any part of this manual or are not satisfied with the service received, please take the following actions.

1. Discuss the matter with your dealership service manager. Make sure they are aware of any problems so they can assist you.
2. If you are still unsatisfied, seek out the owner or general manager of the dealership.

For further assistance write to:

Product Support

Great Plains Mfg. Inc., Service Department
PO Box 5060
Salina, KS 67402-5060



gp_web_cs@greatplainsmfg.com

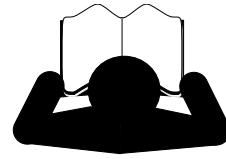


Assembly Instructions

Before You Start

Most accidents are the result of negligence and carelessness, usually caused by failure of the operator to follow simple but necessary safety precautions.

Allow no one to work on or use a row cleaner before carefully reading this manual.



WARNING

Sharp Object Hazard:

Row cleaner tines are sharp. The edges of row cleaner wheels are sharp. UMC blades are sharp. Wear gloves when handling these parts. Maintain awareness of installed coulters and row cleaners when working in front of row units.

Perform these steps before installing your row cleaners.

1. Read and understand “**Important Safety Information**” starting on page 1.
2. Hitch the implement to a suitable tractor. Refer to the hitching topic in the Operator Manual.
3. Position the implement in a level, dry, well-lighted area. Pick a location with a clear surface beneath, so that any dropped tools or parts can be easily located.
4. Unfold the implement.
5. Raise the row units (or leave them raised).
6. Install any lift locks provided.
7. Set all hydraulic circuits to neutral.
8. Shut off the tractor. Set the parking brake.



General Assembly Instructions

Start mounting with the left-most row unit of the implement. Single-arm row cleaners are provisioned as left and right hand pairs. Start with a left hand row cleaner, and alternate left-right-left-right across the implement.

Some fasteners may be loosely assembled. Remove them before mounting that component. Due to evolving manufacturing practices, some assemblies may already be completely pre-assembled. If so, check that fasteners are tight, and skip the unneeded assembly steps.

Torque values for fasteners are shown on page 20.

Wheel bearings are pre-greased and should not require additional lubrication until the first service interval.

Tools Required

- Basic hand tools, including an extension for any socket or air wrench to be used
- Screw thread adhesive, such as Loctite

Where to Start

UMRC: Unit-Mount Row Cleaner installation instructions begin on page 7.

UMC-RC: Unit-Mount Coulter Row Cleaner installation instructions begin on page 10.

UMRC Installation or Update

For Unit-Mount Row Cleaners (no UMC disk coulters).

Refer to Figure 2 (which depicts dual RC mounting; mounting of the single-wheel RCs is identical)

Unit-Mount Row Cleaners (UMRCs) are used only on 25 Series row units which either have no accessories forward of the openers (other than a disk shield ①).

In the case of plain 25 Series row unit, the UMRC mounts on the front face ② of the row unit shank.

Note: 25 Series row units with unit-mount coulters use different models of row cleaner (UMC-RC), for which the assembly instructions begin on page 10.

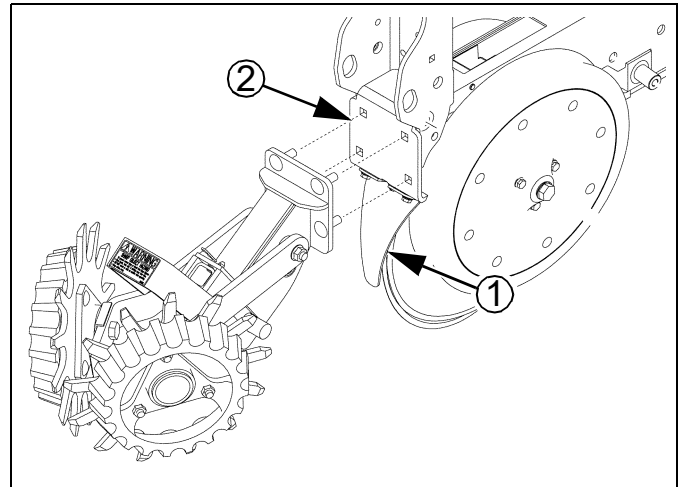


Figure 2:
UMRC Shank Mounting

27310

207-221A Update Kit - Prepare Site

If installing an all new row cleaner, and not updating an existing row cleaner, begin at step 1 on page 8.

Update Kit: Remove Arms

For safety and convenience, remove the old wheel, then the old arm, before removing the old mount. Some parts are re-used.

Refer to Figure 3

A. Remove and save one or both wheels:

- ⑤1 802-228C HHCS 5/8-11X1 1/2 GR5 NYL
- ④7 828-057C RC HUB LOCK, and
- ③1 207-143V RIGID ROW CLEANER ASM LH
or
- ③8 207-142V RIGID ROW CLEANER ASM RH

B. Remove two sets of:

- ②9 207-067D UMC RC PIVOT TUBE
- ③3 802-331C RHSNB 1/2-13X1 3/4 GR5
- ②1 803-169C NUT HEX FLG. LOCK 1/2-13 PLT.
- ③6 817-615C RC ARM PIVOT BUSHING

These parts are not re-used. They are replaced by a single new bolt and nut.

C. Remove and save the arm, which is one of:

- ③0 207-094H SINGLE ARM RC WLD LH (odd rows)
- ③9 207-095H SINGLE ARM RC WLD RH (even rows)
- ④0 207-099H DOUBLE ARM RC WLD

If your left-right arm installation is not standard (left-most row is a left arm, then alternating right-to-left), note from which row each arm was removed.

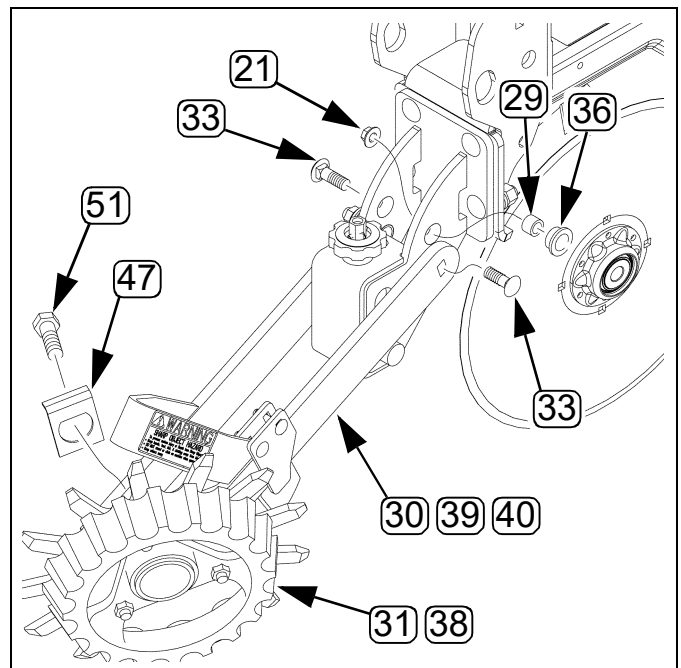


Figure 3:
Remove Old Arm

27348

Note: Wheels are also handed (left or right). Keep left and right wheels in separate collection areas.

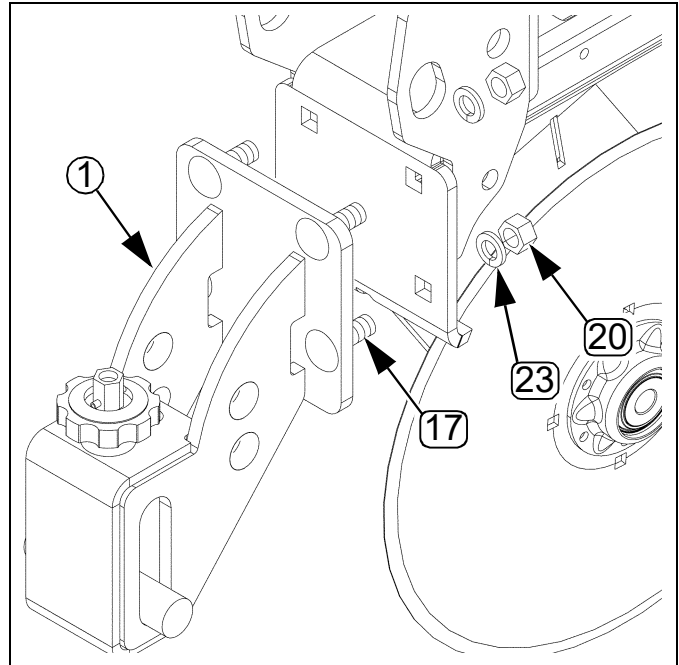
Update Kit: Remove Mount*Refer to Figure 4***D. Remove four sets of:**

①⑦ 802-106C RHSNB 1/2-13X1 1/2 GR5

②③ 804-015C WASHER LOCK SPRING 1/2 PLT

②① 803-020C NUT HEX 1/2-13 PLT

Although identical to new parts in the kit, these fasteners are not re-used.

E. Remove the old knob-adjust weldment ①. The weldment, and all parts still installed in it, are not re-used.**Figure 4:**
Remove Old Mount

27349

Install UMRC Adjuster Parts*Refer to Figure 5***1. Select one each:**

①① 207-072D UMRC MOUNT ROUND TUBE

①③ 207-107D UMRC ADJUSTMENT TUBE

①④ 207-108D SPACER

①⑤ 207-214H UMRC MOUNT WELD

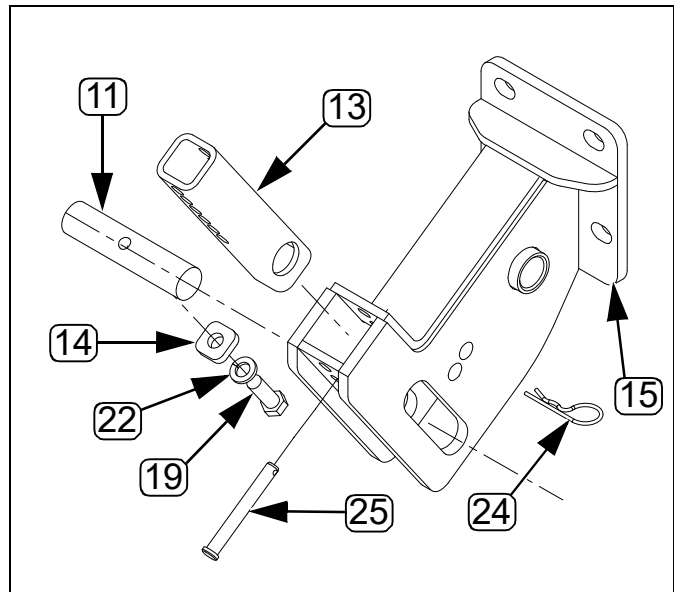
①⑨ 802-673C HHCS 7/16-14X1 1/4 GR5 PLT

②② 804-014C WASHER LOCK 7/16 PLT

②④ 805-031C PIN HAIR COTTER .092 WIRE

②⑤ 805-385C PIN CLEVIS 3/8 X 3 PLT

2. Insert the adjustment tube ①③ in the weldment ①⑤ with the large holes facing the slots in the weldment. Hold in place with the clevis pin ②⑤ and cotter pin ②④. Pin the tube at the highest position that has the large tube hole fully visible in the slots.
3. Insert the round tube ①① through both the weldment and the adjustment tube.
4. Place the lock washer ②② and then the spacer ①④ on the bolt ①⑨. Apply thread adhesive to the threads, and secure bolt in round tube ①①.

**Figure 5:**
UMRC Adjuster Parts

27318

Install UMRC Mount Weldment

Refer to Figure 6 (which depicts a shank mounting)

5. Select the mount ① partially assembled above.
6. Select four sets of:
 - ① 802-106C RHSNB 1/2-13X1 1/2 GR5
 - ② 804-015C WASHER LOCK SPRING 1/2 PLT
 - ③ 803-020C NUT HEX 1/2-13 PLT
7. Attach the UMRC mount weldment ① to the row unit shank face using the four sets of fasteners. Loosely tighten fasteners, as the alignment of the complete unit may require adjustment before final tightening.

Note: Depending on tools available, it may be more convenient to insert the bolt ① from behind row face, and install the lock washers and nuts in front.

Install UMRC Cleaner Arm

Refer to Figure 7 (which depicts a dual RC arm)

8. Select one of the following, depending on kits:
 - ③ 207-094H SINGLE ARM RC WLD LH (odd rows)
 - ④ 207-095H SINGLE ARM RC WLD RH (even rows)
 - ⑤ 207-099H DOUBLE ARM RC WLD
9. Select two:
 - ⑥ 817-084C PARALLEL ARM PIVOT BUSHING
10. Select one each:
 - ⑦ 207-106D ROW CLEANER PIVOT PIPE
 - ⑧ 818-525C DECAL SHARP OBJECT WARNING
 - ⑨ 802-046C HHCS 1/2-13X5 1/2 GR5
 - ⑩ 803-020C NUT HEX 1/2-13 PLT
11. Insert the pivot pipe ⑦ in one end of a bushing ⑥.
12. Insert these in the pivot hole^a, as shown in the figure.
13. Place the other bushing ⑥ on the other end of the tube.
14. With the arm weldment (③, ④ or ⑤) above the adjustment tube ②, align the end holes of the arm with the bushing assembly, and temporarily hold in place with bolt ⑨.
15. Apply thread adhesive to the bolt ⑨. Secure with nut ⑩.
16. Clean and dry the surface of the gusset on the arm weldment ⑤ and apply the decal ⑧.
17. Repeat UMRC step 1 through step 16 for all rows.

Skip to “Install Cleaner Wheel Assemblies” on page 11.

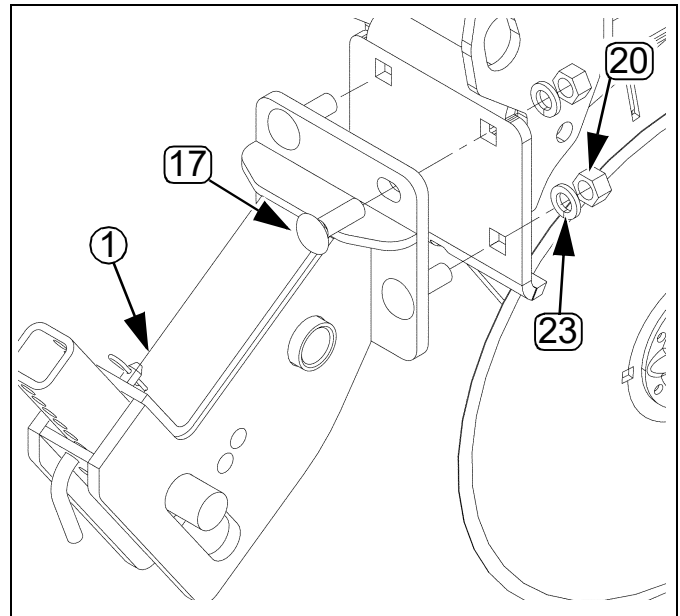


Figure 6:
UMRC Weldment Mounting

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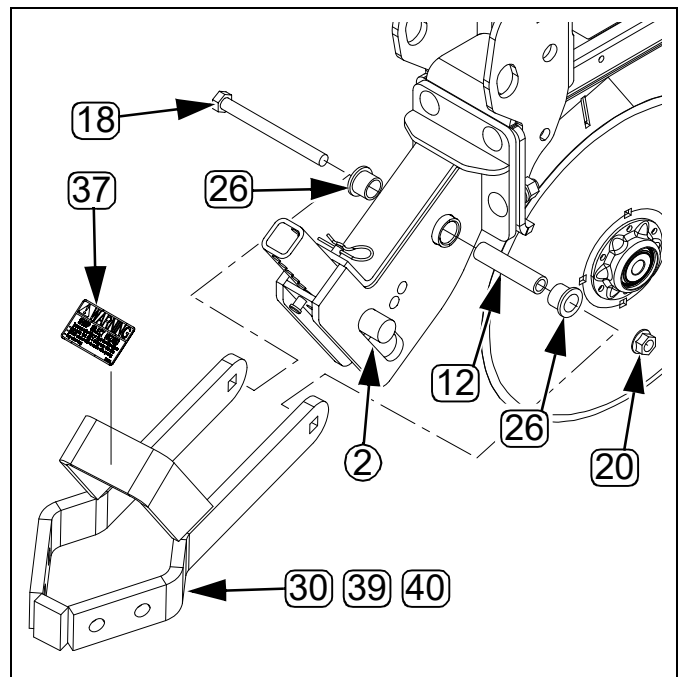


Figure 7:
UMRC Arm Mounting

27315

a. 2013 and earlier weldments may have two pivot holes. Only the upper hole is used.

Install UMC-RC Cleaner Arms

For Unit-Mount Coulter - Row Cleaners (disk coulters present).

Refer to Figure 8 or Figure 9

(which depicts a shank mounted UMC and a dual RC arm).

UMC-RC kits do not include a mount weldment, as they rely on mounts ① on the UMC brackets ②. If the UMCs are not yet on the implement, install them before installing the row cleaners, but do not install the coulter blades until step 9 below.

CAUTION

Sharp Object Hazards:

If the UMC blades are already installed, exercise extra care while installing the row cleaners.

The UMC itself is mounted directly on the row unit shank.

Refer to Figure 7 (which depicts a shank mounting)

1. Select one of the following, depending on kits:
 - ③① 207-094H SINGLE ARM RC WLD LH (odd rows)
 - ③⑨ 207-095H SINGLE ARM RC WLD RH (even rows)
 - ④① 207-099H DOUBLE ARM RC WLD
2. Select two each:
 - ②⑨ 207-067D UMC RC PIVOT TUBE
 - ③③ 802-331C RHSNB 1/2-13X1 3/4 GR5
 - ②① 803-169C NUT HEX FLG. LOCK 1/2-13 PLT.
 - ③④ 804-017C WASHER FLAT 1/2 USS PLT
 - ③⑥ 817-615C RC ARM PIVOT BUSHING
3. Select one:
 - ③⑦ 818-525C DECAL SHARP OBJECT WARNING
4. Insert the pivot tubes ②⑨ inside the bushings ③⑥. Insert these two assemblies in the UMC mount holes, from the outside (preferred placement, Figure 8). If clearance difficulties are encountered, use the alternate placement in Figure 9.
5. Insert these in the lower/forward holes (for a 15 inch coulter blade, upper/rear holes for a 14 inch blade).
6. Align the RC arm (③①, ③⑨, or ④①) in between the holes with the new bushing assemblies, and hold in place with bolts ③③.
7. Snug square shanks of bolts in arm holes, and secure bolts with flat washers ③④ and flanged lock nuts ②①.
8. Clean and dry the surface of the gusset on the arm weldment ④① and apply the decal ③⑦.
9. If a coulter is also being installed, mount the blade.
10. Repeat UMC-RC step 1 through step 8 for all rows.

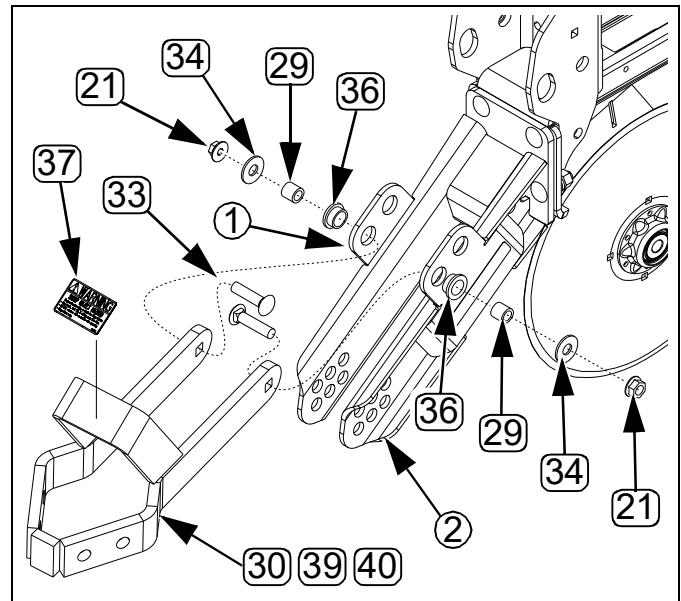


Figure 8:
UMC-RC Arm Mounting
Preferred Bushing Placement

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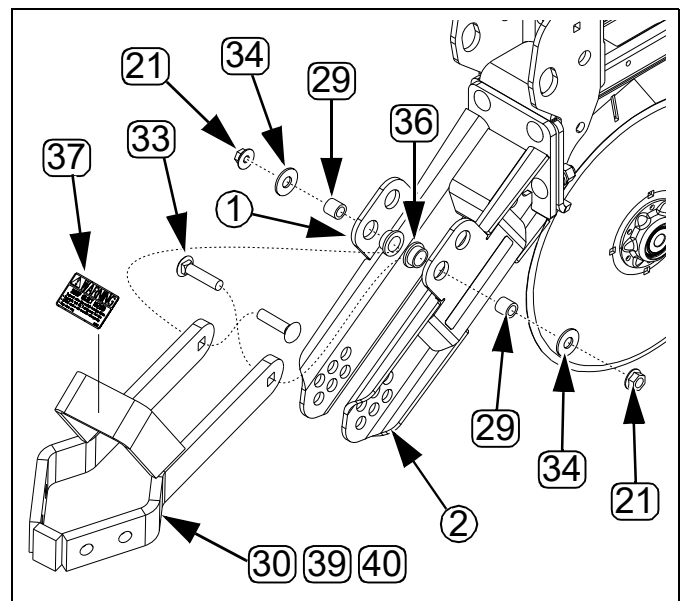


Figure 9:
UMC-RC Arm Mounting
Alternate Bushing Placement

27491

Install Cleaner Wheel Assemblies

Wheel Identification

Refer to Figure 10 (which depicts a left wheel 31)

Row cleaner wheels are pre-assembled. Each assembly is intended for either left or a right mounting.

38 207-142V RIGID ROW CLEANER ASM RH

31 207-143V RIGID ROW CLEANER ASM LH

If any identifying tags or packaging are separated from a wheel, you can identify the wheel type by a part number stamped in spoked wheel face. Left and right wheels have part numbers ending in "L" and "R", respectively.

The first wheel to be mounted is a left wheel. Whether single- or dual-arm, the next wheel is a right, and they alternate left-right across the implement.

NOTICE

Field Results Risk:

Be sure to mount left wheels on left arms or on the left side of dual arms, and vice-versa for right. Unsatisfactory row cleaning and premature cleaner wear may otherwise result.

Wheel Placement

Refer to Figure 11 (which depicts a left single-arm RC)

Each arm (and each side of a dual arm) has two mounting holes for cleaner wheels. Which hole(s) to use is dependent on your field conditions and field experience.

Review the topic "Wheel Placement" on page 14, and make a determination as to which hole(s) to use for the initial mounting. If no clear choice emerges, use the forward holes.

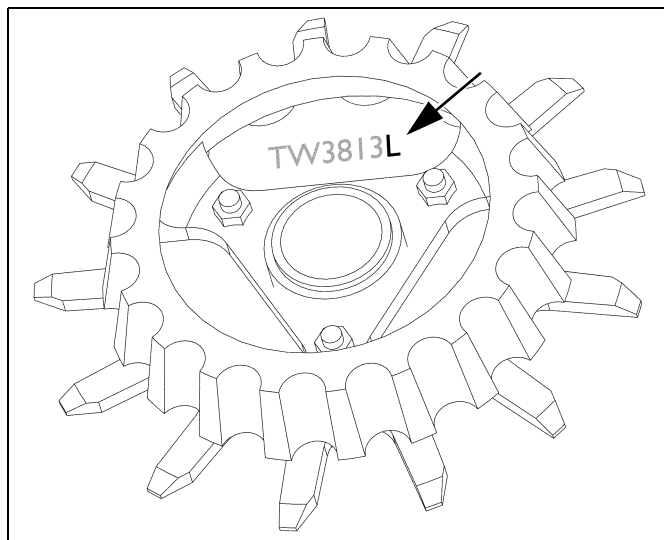


Figure 10:
Wheel Identification

27317

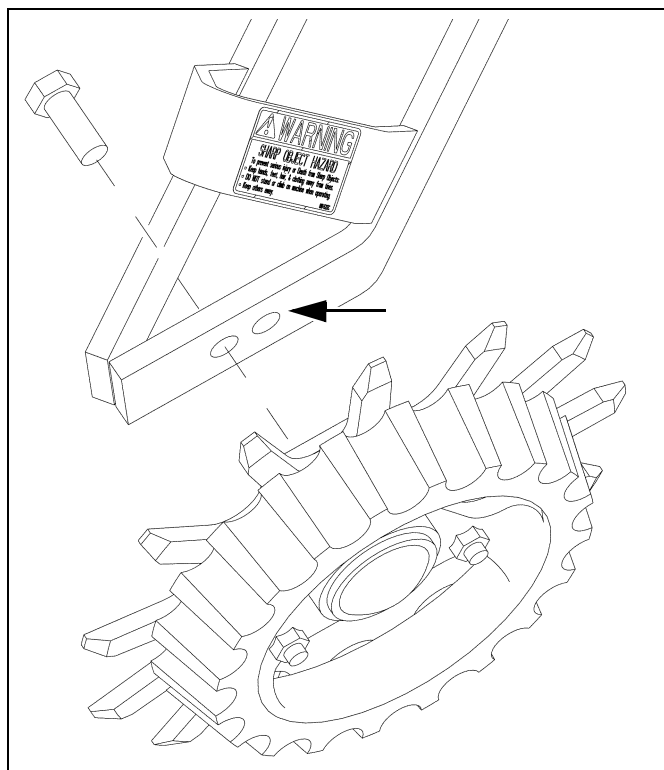


Figure 11:
Wheel Placement Choice

27319

Mount a Left Wheel

Refer to Figure 12 (which depicts mounting the wheel assembly in the aft arm hole of a single arm; left side dual-wheel mounting is identical)

11. Select one:

(31) 207-143V RIGID ROW CLEANER ASM LH

12. Partially disassemble it (some parts may be attached by cable ties), freeing the:

(47) 828-057C RC HUB LOCK

(51) 802-228C HHCS 5/8-11X1 1/2 GR5 NYL

13. Insert the bolt (51) through the selected arm hole from inside the arm (1). If a

(52) 804-195C WASHER FLAT 1.31ODX.65IDX.188T is present, it is not used.

14. Place the hub lock (47) over the bolt threads from outside the arm, with the bent edge of the lock up and toward the inside of the arm. This lock prevents the back face of the hub from rotating while you secure the bolt in the next step.

15. Place the cleaner wheel assembly (2) on the bolt, and screw the bolt into the wheel hub. Use the lock, up against the hub, to prevent hub rotation. Torque bolt to specifications once hub and lock are fully seated.

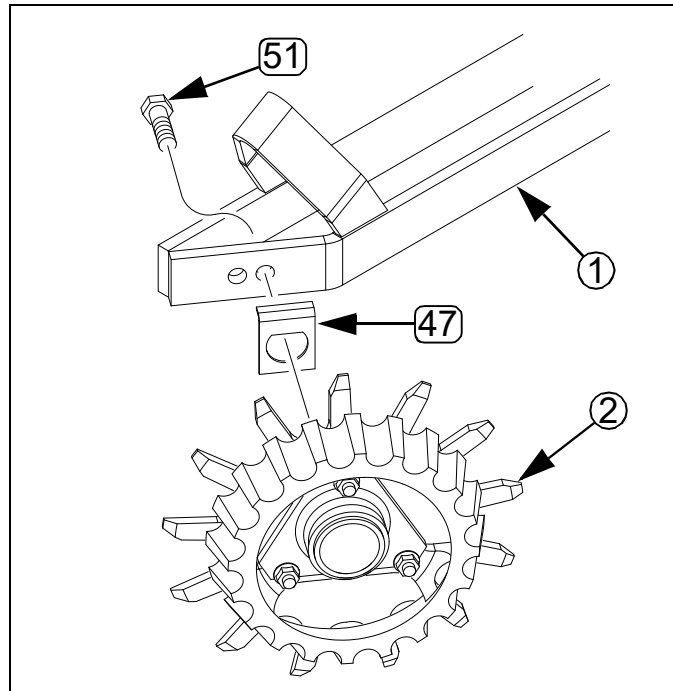


Figure 12:
Left RC Wheel Install

27320

Mount a Right Wheel

Refer to Figure 13 (which depicts mounting the wheel assembly in the aft arm hole of a single arm; right-side dual mounting is identical)

16. Select one:

(38) 207-142V RIGID ROW CLEANER ASM RH

17. Partially disassemble it (some parts may be attached by cable ties), freeing the:

(47) 828-057C RC HUB LOCK

(51) 802-228C HHCS 5/8-11X1 1/2 GR5 NYL

18. Insert the bolt (51) through the selected arm hole from inside the arm (1). If a

(52) 804-195C WASHER FLAT 1.31ODX.65IDX.188T is present, it is not used.

19. Place the hub lock (47) over the bolt threads from outside the arm, with the bent edge of the lock up and toward the inside of the arm. This lock prevents the back face of the hub from rotating while you secure the bolt in the next step.

20. Place the cleaner wheel assembly (2) on the bolt, and screw the bolt into the wheel hub. Use the lock, up against the hub, to prevent hub rotation. Torque bolt to specifications once hub and lock are fully seated.

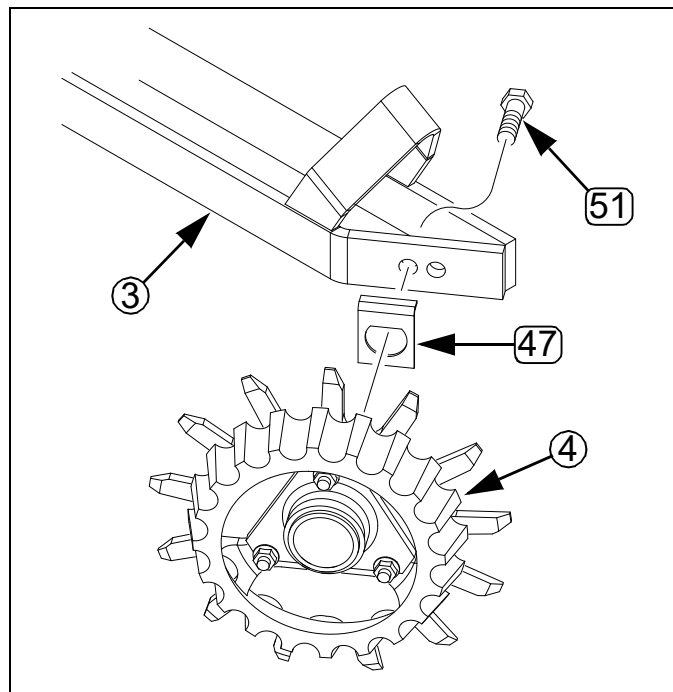


Figure 13:
Right RC Wheel Install

27320

Install Down Stop (UMC-RC Only)

If you have installed UMRCs, the adjuster hardware is already installed. Skip this section and make final adjustments per the instructions in the next section.

The height adjustment for UMC-RC units is a sliding stop.

21. Select one:

(41) 207-148H UM ROW CLEAN DOWN STOP WLDM

22. Set two sets of:

(42) 802-270C RHSNB 5/16-18X1 1/2 GR5

(43) 803-008C NUT HEX 5/16-18 PLT

(44) 804-009C WASHER LOCK SPRING 5/16 PLT

(45) 804-036C WASHER FLAT 5/16 SAE PLT

Note: On single-wheel arms, the down stop mounts on the side of the arm with the wheel. On dual-wheel arms, the down stop may be mounted on either side, and you may want to select the location on a per-row basis, for ease of access for adjustments.

23. Swing the cleaner arm up until the tines are well above the height of the bottom edge of the row unit opener disks. Support the arms at this height.

24. From underneath the arm ①, orient the tip end of the down-stop (41) forward (longer bolt slot aft), and slide the down stop up onto the arm. Temporarily secure with one or two bolts (42).

Insert the bolts from the inside of the arm. Placing the threads outside the arm minimizes collection of residue during operations.

25. Place a flat washer (45), and then a lock washer (44) onto each bolt, and loosely add a nut (43).

26. If you know the initial height at which you desire to operate the cleaner (from the next section), set the cleaner arm at that height and support it there.

27. Slide the adjuster back until it contacts the coultter bracket. Secure the nuts. Remove the support holding up the arm.

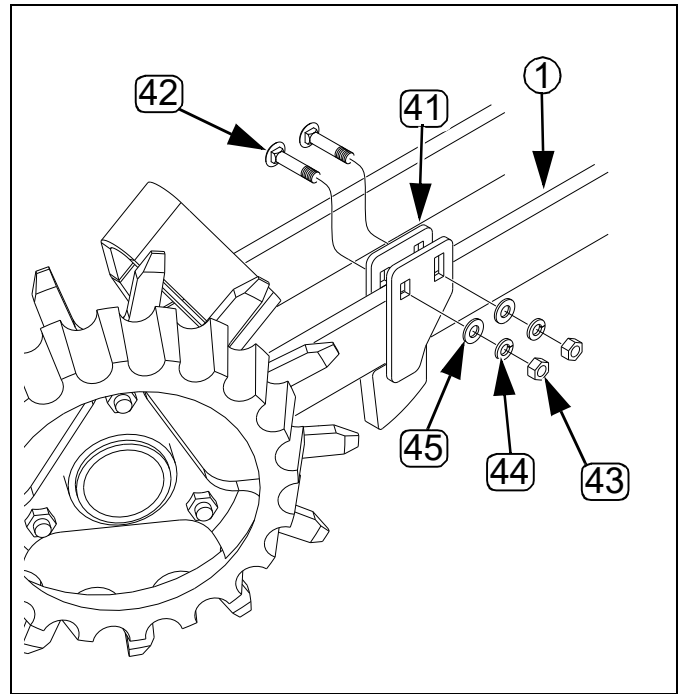


Figure 14:
Right RC Down-Stop

27321

Adjustment and Operation

Wheel Placement

Cleaner arms have two alternate mounting holes for cleaner wheels. Which hole to use depends on your field conditions, experience, and preference. Great Plains suggests starting with the “more aggressive” positions.

Too aggressive row cleaner use can remove treated soil from the seed furrow area, reducing effectiveness of treatments.

Make the placement choice prior to setting row cleaner depth, as moving the wheel position changes the depth. When changing placement, be sure to re-adjust the depth.

Dual Wheel Placement

Offset Dual Wheel

Refer to Figure 15

Start with this “more aggressive” configuration. Mounting one wheel forward and one wheel retracted allows the wheels to rotate independently while still keeping one close to center-line.

It is not possible to set both tines to the same depth in this configuration. Adjust row cleaner height based on the tines closer to row unit center-line.

Retracted Dual Wheel

Refer to Figure 16

This setting is the least aggressive. If clogging occurs with offset, try retracted.

Retracted may also be necessary to shorten the overall length of the row cleaner, and provided greater clearance from leading equipment or accessories.

Intersected Dual Wheel

Not Recommended

Refer to Figure 17

In this configuration, the disk tines mesh. This is an extremely aggressive placement, and is not recommended by Great Plains, as it causes excess tine wear and is prone to clogging and rotation stoppages.

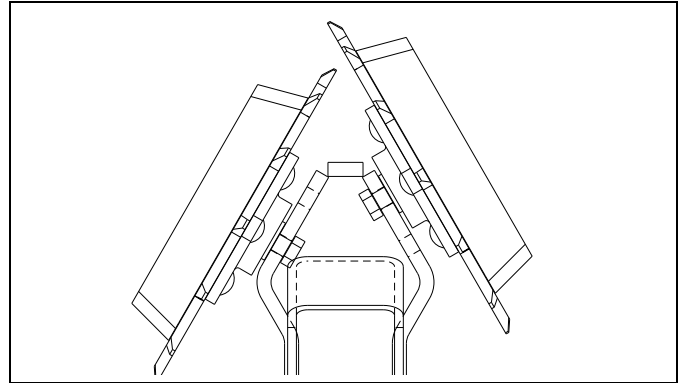


Figure 15:
Dual Wheel Offset

27340

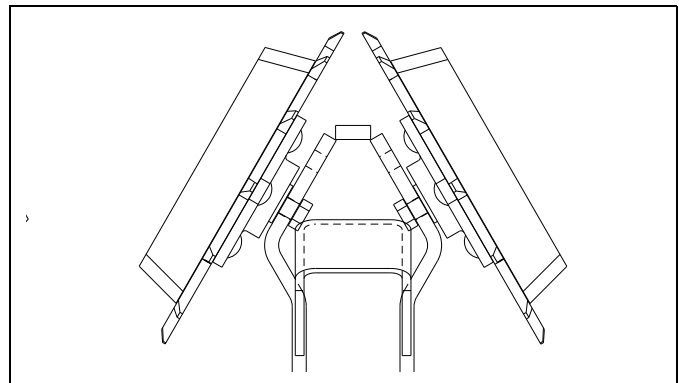


Figure 16:
Dual Wheel Retracted

27340

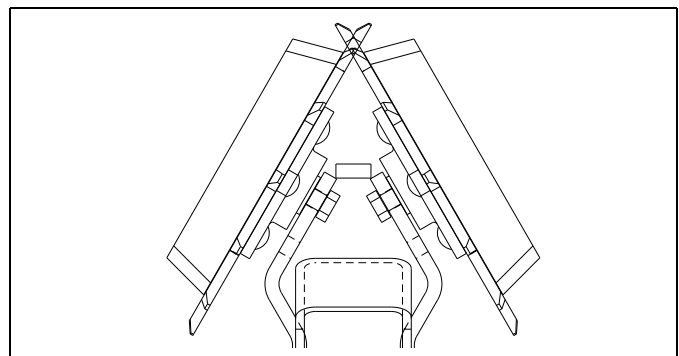


Figure 17:
Dual Wheel Intersected

27340

Single Wheel Placement

Single Wheel Forward

Refer to Figure 18

This is the most aggressive placement, putting the disk closest to row unit centerline, and is suggested for no-till conditions.

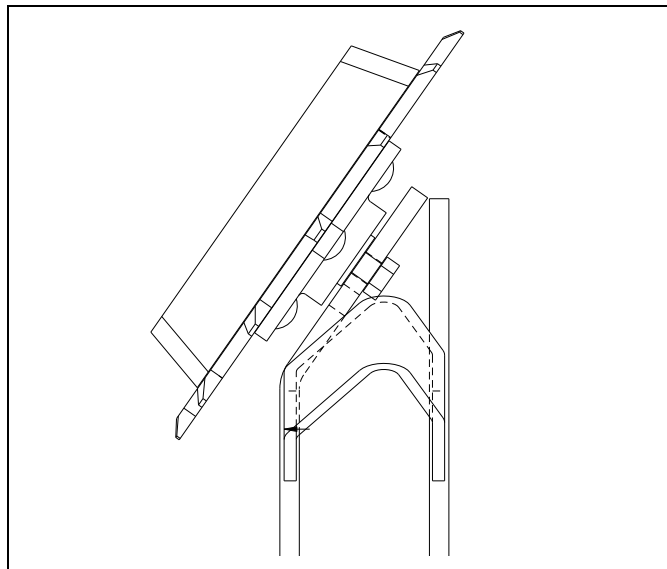


Figure 18:
Single Wheel Forward

27339

Single Wheel Retracted

Refer to Figure 19

This is a less aggressive placement, and may be preferred for tilled conditions.

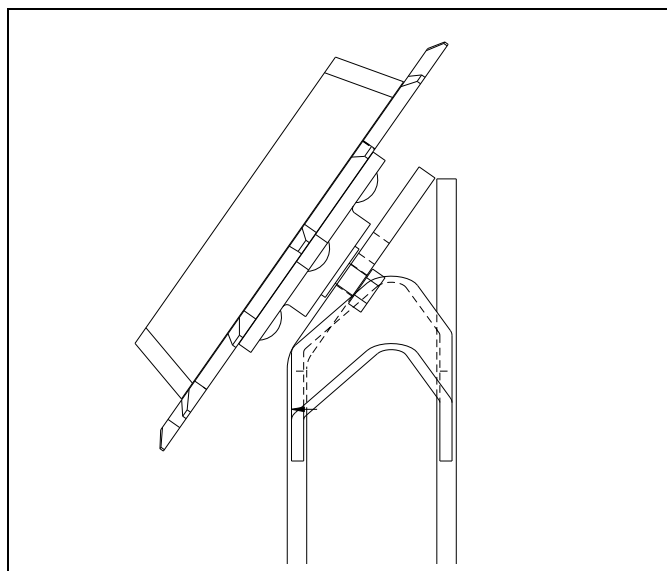


Figure 19:
Single Wheel Retracted

27339

Row Cleaner Depth

Make adjustments to wheel placement (page 14) before setting row cleaner depth. Changing placement changes depth. Make any planned changes to opener disk height (T-handle) before adjusting row cleaner.

CAUTION

Sharp Object Hazards:

Be careful when working around row cleaners. Tines and disk corners are sharp. Coulter blades present are sharp. Use a jack or block to support the tines while setting the adjuster.

Selecting Depth

Refer to Figure 20 (which depicts a UMC-RC)

Set the depth so that the row cleaner tines are at or slightly above the soil line.

Monitor your results, and adjust the height as needed to clear residue but not overly disturb soil (or trench).

Row Cleaner Lock-Up

To prevent a row cleaner from operating at all, set the height to maximum.

Adjusting UMRC Depth

NOTICE

Equipment Damage Risk:

For planter model YP825AR, on the row unit immediately left of the center pivot, do not use the top two holes of the vertical tube. If those holes are used, the row cleaner can contact the center pivot.

Refer to Figure 21

1. Remove the bent pin ① from the adjustment tube ②.
2. Raise the row cleaner arm to slightly higher than desired operating height and support it at this height.
3. Slide the tube up until the round cross-tube ③ contacts the arm.
4. Re-insert the bent pin in whichever hole pair aligns. Secure with cotter pin. The minimum height increment at the tines is about $\frac{3}{8}$ inch (19 mm).
5. Relax the cleaner arm on the cross-tube and check height relative to opener disks.

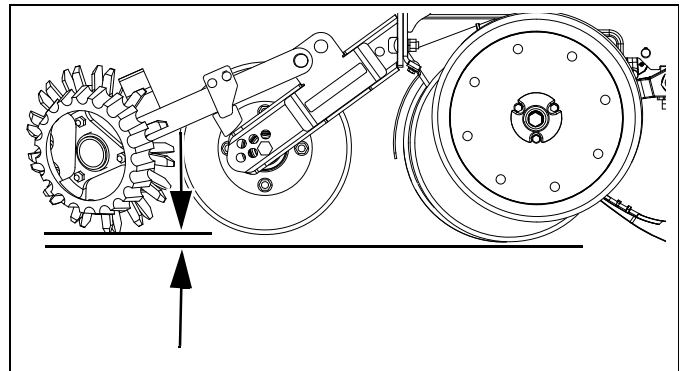


Figure 20:
Row Cleaner Depth

27341

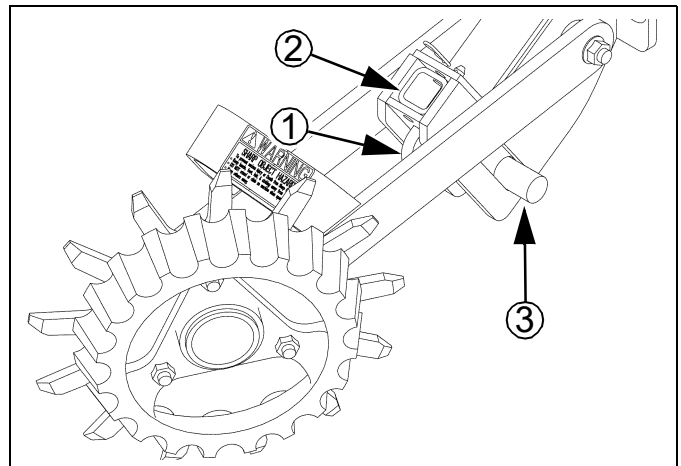


Figure 21:
UMRC Height Adjust

27308

Adjusting UMC-RC Depth

Refer to Figure 22

1. Raise the cleaner arm slightly. Loosen the nuts on the adjuster stop ①. Slide the stop forward.
2. Raise the row cleaner arm to slightly higher than desired operating height and support it at this height.
3. Slide the adjuster stop up until it contacts the coultter bracket. Tighten the nuts.
4. Relax the cleaner arm on the cross-tube and check height relative to opener disks.

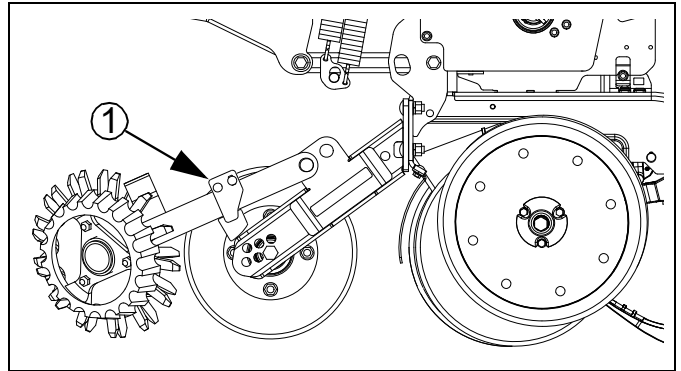


Figure 22:
UMC-RC Height Adjust

27341



Troubleshooting

Problem	Likely Cause	Solutions
Too Much Residue at Openers	Cleaners set too high	Lower cleaners.
	Cleaner wheels not set aggressively.	Move single wheel forward.
Cleaner Wheels Do Not Turn	Cleaners set too high	Lower cleaners.
	Excessive residue clogging wheels	Change to less aggressive wheel placement and/or reduce depth.
	Bearings failed	Re-pack or replace.
Tines Clogging With Residue	Excessive residue	Use less aggressive placement and depth. if using dual wheels, change placement to less aggressive.
	Cleaning too deep	Raise cleaner height.
	Conditions may be too wet	Wait for dryer weather or don't use row cleaners.
Cleaners Lifting Off Stops	Depth too great for conditions	Raise cleaner height.
	Row unit down-force too high	Reduce down force or raise cleaners.
Cleaners Cutting Deep Trench	Depth too deep	Raise cleaner height.

Maintenance and Lubrication

Maintenance






Proper servicing and adjustment is the key to long life for any implement. With careful and systematic inspection, costly maintenance, repairs and down time can be avoided.

WARNING

Crushing and High Pressure Fluid Hazard:

Before working on, servicing or making adjustments on implement, raise it, install lift locks, and always disengage power, shut off tractor engine, make sure all moving parts have stopped, and all pressure in the system is relieved.

Lubrication

 Multi-purpose spray lubricant	 Multi-purpose grease lubricant	 Multi-purpose oil lubricant	 Inspection	 Intervals (operating hours) at which service is required
---	--	---	---	--

Row Cleaner Hub

	 Seasonal
---	---

1 zerk each cleaner tine wheel; 1 or 2 per row

Type of Lubrication: Grease

Quantity: Until resistance is felt

Do not apply excessive pumping pressure. There is some risk of damaging the seals.

Row Cleaner Maintenance

1. After several hours of operation, check row cleaners for loose bolts, and loose or missing pins.

Check wheels for free rotation.




2. At the end of the season, lubricate per the instructions below.








Appendix

Torque Values

Bolt Size	Bolt Head Identification					
						
	Grade 2		Grade 5		Grade 8	
in-tpi ^a	N-m ^b	ft-lb ^d	N-m	ft-lb	N-m	ft-lb
1/4-20	7.4	5.6	11	8	16	12
1/4-28	8.5	6	13	10	18	14
5/16-18	15	11	24	17	33	25
5/16-24	17	13	26	19	37	27
3/8-16	27	20	42	31	59	44
3/8-24	31	22	47	35	67	49
7/16-14	43	32	67	49	95	70
7/16-20	49	36	75	55	105	78
1/2-13	66	49	105	76	145	105
1/2-20	75	55	115	85	165	120
9/16-12	95	70	150	110	210	155
9/16-18	105	79	165	120	235	170
5/8-11	130	97	205	150	285	210
5/8-18	150	110	230	170	325	240
3/4-10	235	170	360	265	510	375
3/4-16	260	190	405	295	570	420
7/8-9	225	165	585	430	820	605
7/8-14	250	185	640	475	905	670
1-8	340	250	875	645	1230	910
1-12	370	275	955	705	1350	995
1 1/8-7	480	355	1080	795	1750	1290
1 1/8-12	540	395	1210	890	1960	1440
1 1/4-7	680	500	1520	1120	2460	1820
1 1/4-12	750	555	1680	1240	2730	2010
1 3/8-6	890	655	1990	1470	3230	2380
1 3/8-12	1010	745	2270	1670	3680	2710
1 1/2-6	1180	870	2640	1950	4290	3160
1 1/2-12	1330	980	2970	2190	4820	3560

Bolt Size	Bolt Head Identification					
						
	Class 5.8		Class 8.8		Class 10.9	
mm x pitch ^c	N-m	ft-lb	N-m	ft-lb	N-m	ft-lb
M 5 X 0.8	4	3	6	5	9	7
M 6 X 1	7	5	11	8	15	11
M 8 X 1.25	17	12	26	19	36	27
M 8 X 1	18	13	28	21	39	29
M10 X 1.5	33	24	52	39	72	53
M10 X 0.75	39	29	61	45	85	62
M12 X 1.75	58	42	91	67	125	93
M12 X 1.5	60	44	95	70	130	97
M12 X 1	90	66	105	77	145	105
M14 X 2	92	68	145	105	200	150
M14 X 1.5	99	73	155	115	215	160
M16 X 2	145	105	225	165	315	230
M16 X 1.5	155	115	240	180	335	245
M18 X 2.5	195	145	310	230	405	300
M18 X 1.5	220	165	350	260	485	355
M20 X 2.5	280	205	440	325	610	450
M20 X 1.5	310	230	650	480	900	665
M24 X 3	480	355	760	560	1050	780
M24 X 2	525	390	830	610	1150	845
M30 X 3.5	960	705	1510	1120	2100	1550
M30 X 2	1060	785	1680	1240	2320	1710
M36 X 3.5	1730	1270	2650	1950	3660	2700
M36 X 2	1880	1380	2960	2190	4100	3220

a. in-tpi = nominal thread diameter in inches-threads per inch

b. N·m = newton-meters

c. mm x pitch = nominal thread diameter in mm x thread pitch

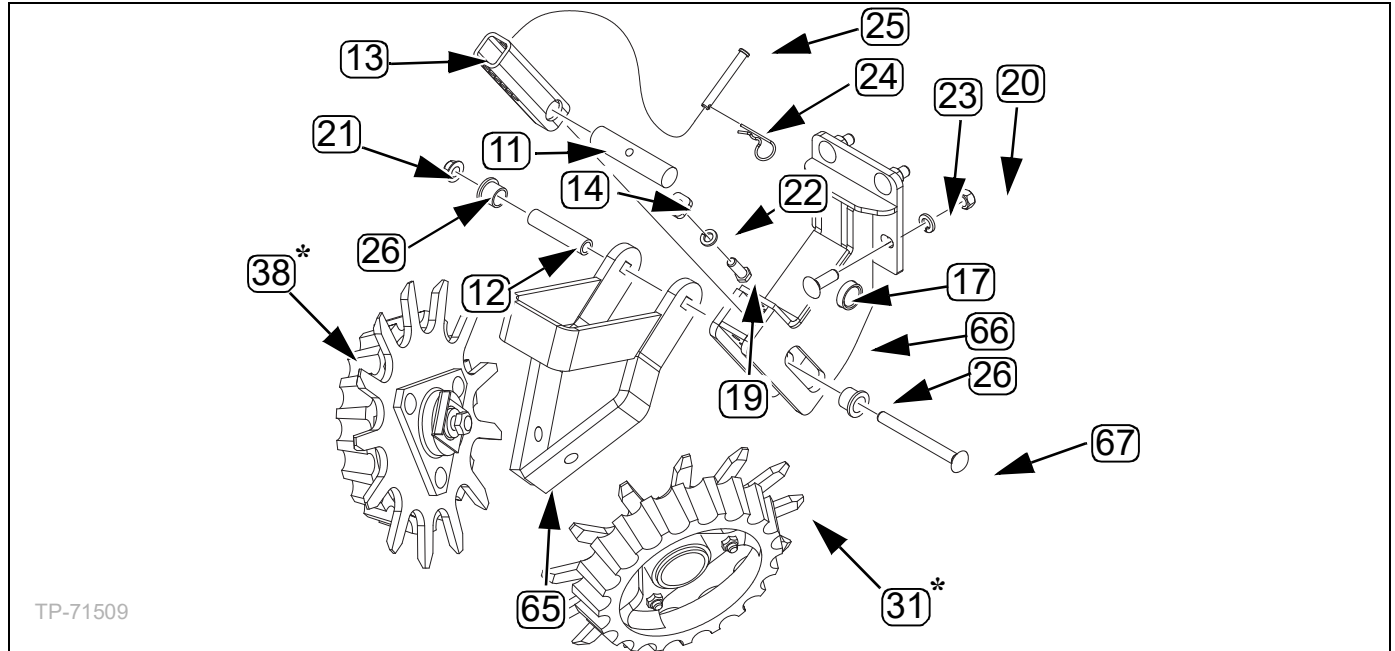
d. ft-lb = foot pounds

Torque tolerance + 0%, -15% of torquing values. Unless otherwise specified use torque values listed above.

25199

Parts Lists

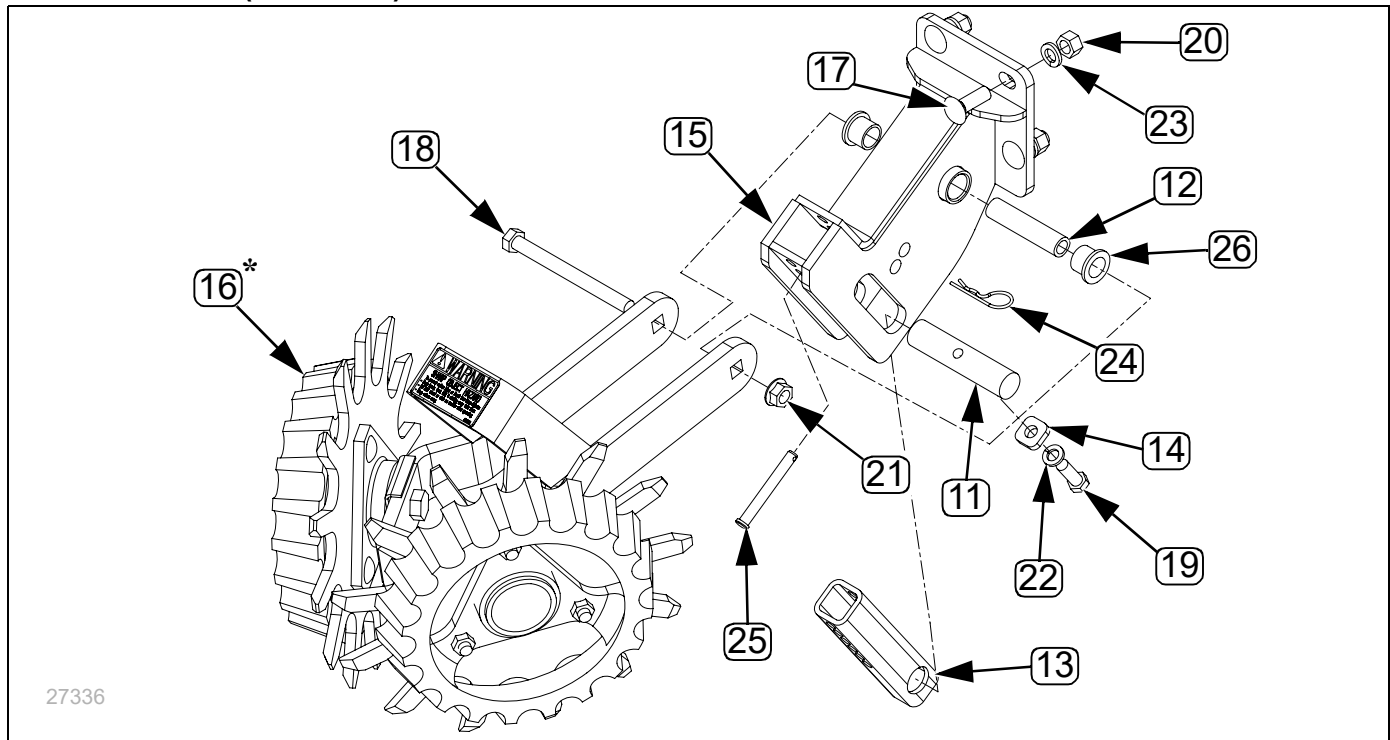
Single UMRC Kit (207-305K)



Callout	Part Number	Quantity	Part Description
(11)	207-072D	1	UMRC MOUNT ROUND TUBE
(12)	207-106D	1	ROW CLEANER PIVOT PIPE
(13)	207-107D	1	UMRC ADJUSTMENT TUBE
(14)	207-108D	1	SPACER
(17)	802-106C	4	RHSNB 1/2-13X1 1/2 GR5
(19)	802-673C	1	HHCS 7/16-14X1 1/4 GR5 PLT
(20)	803-020C	4	NUT HEX 1/2-13 PLT
(21)	803-169C	1	NUT HEX FLG. LOCK 1/2-13 PLT.
(22)	804-014C	1	WASHER LOCK 7/16 PLT
(23)	804-015C	4	WASHER LOCK SPRING 1/2 PLT
(24)	805-031C	1	PIN HAIR COTTER .092 WIRE
(25)	805-385C	1	PIN CLEVIS 3/8 X 3 PLT
(26)	817-084C	2	PARALLEL ARM PIVOT BUSHING
(31) ^a	207-143V	1	RIGID ROW CLEANER ASM LH
(38) ^a	207-142V	1	RIGID ROW CLEANER ASM RH
(65)	207-304H	1	DOUBLE RC ARM
(66)	207-316H	1	UMRC MOUNT WELDMENT
(67)	802-463C	1	RHSNB 1/2-13X5 GR5

a. These parts, 207-143V and 207-142V, are sub-assemblies containing additional parts. See following tables.

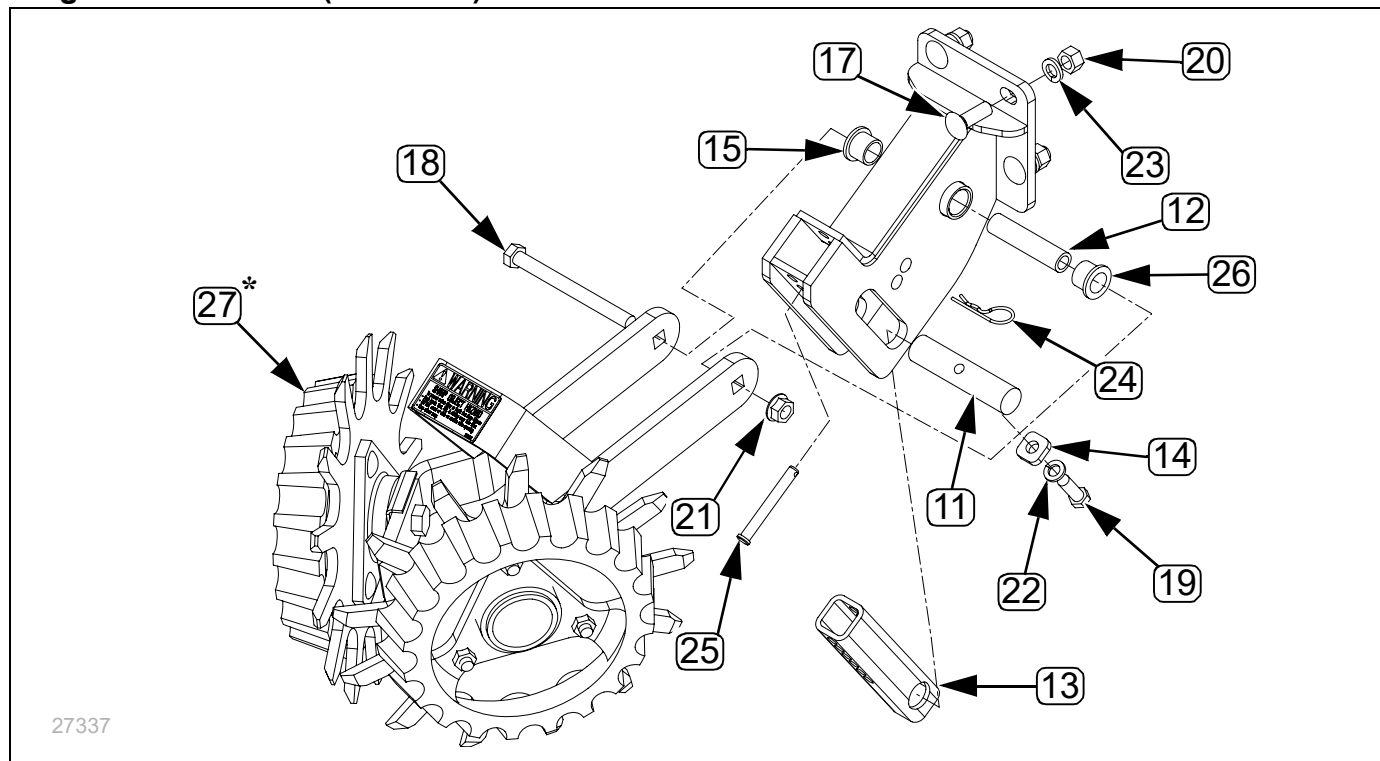
* If you obtain a complete replacement hub or wheel assembly, it may contain a washer (804-195C or comparable). This washer is not used when these cleaner wheels are installed on unit-mount arms.

Dual UMRC Kit (207-213K)

Callout	Part Number	Quantity	Part Description
(11)	207-072D	1	UMRC MOUNT ROUND TUBE
(12)	207-106D	1	ROW CLEANER PIVOT PIPE
(13)	207-107D	1	UMRC ADJUSTMENT TUBE
(14)	207-108D	1	SPACER
(15)	207-214H	1	UMRC MOUNT WELD
(16) ^a	207-217S	1	DOUBLE ARM ROW CLEANER ASM
(17)	802-106C	4	RHSNB 1/2-13X1 1/2 GR5
(18)	802-046C	1	HHCS 1/2-13X5 1/2 GR5
(19)	802-673C	1	HHCS 7/16-14X1 1/4 GR5 PLT
(20)	803-020C	4	NUT HEX 1/2-13 PLT
(21)	803-169C	1	NUT HEX FLG. LOCK 1/2-13 PLT.
(22)	804-014C	1	WASHER LOCK 7/16 PLT
(23)	804-015C	4	WASHER LOCK SPRING 1/2 PLT
(24)	805-031C	1	PIN HAIR COTTER .092 WIRE
(25)	805-385C	1	PIN CLEVIS 3/8 X 3 PLT
(26)	817-084C	2	PARALLEL ARM PIVOT BUSHING

a. This part, 207-217S, is a sub-assembly containing additional parts. See following tables.

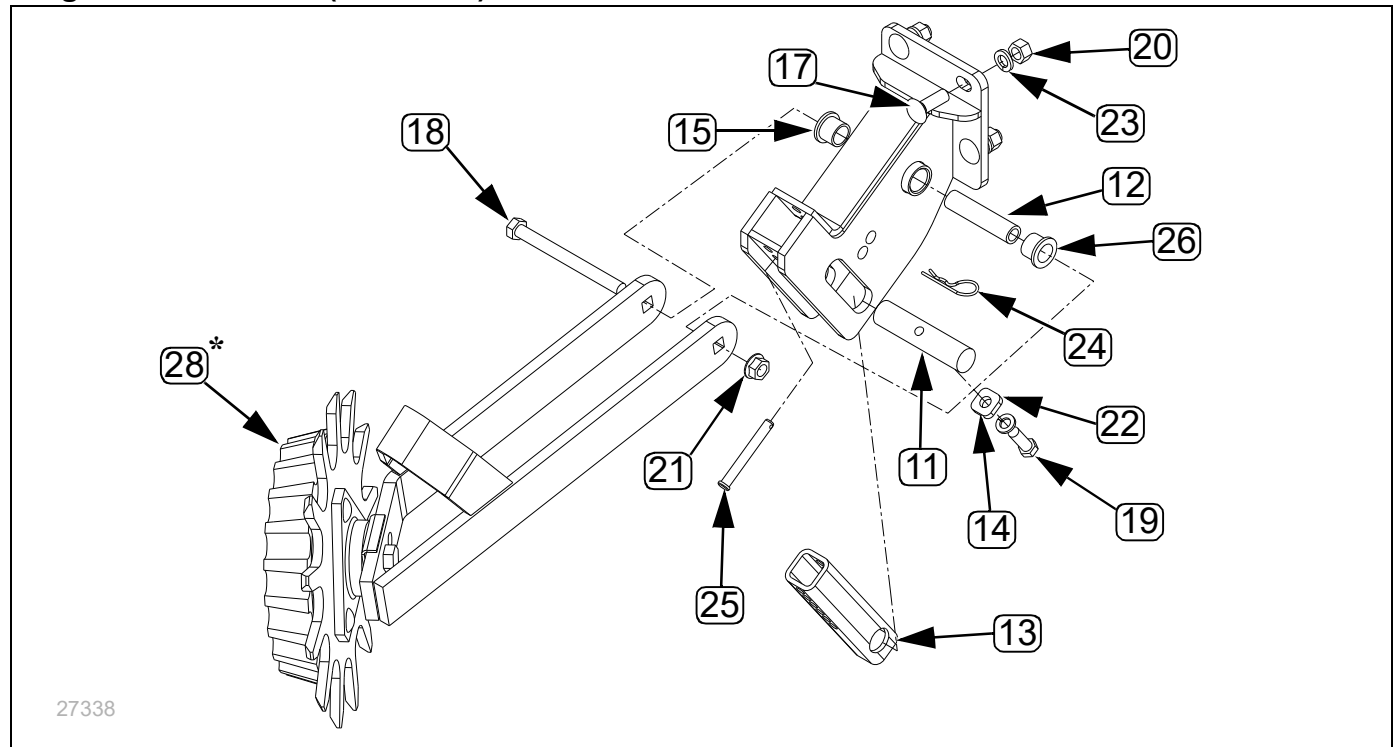
* If you obtain a complete replacement hub or wheel assembly, it may contain a washer (804-195C or comparable). This washer is not used when these cleaner wheels are installed on unit-mount arms.

Single LH UMRC Kit (207-215K)

Callout	Part Number	Quantity	Part Description
(11)	207-072D	1	UMRC MOUNT ROUND TUBE
(12)	207-106D	1	ROW CLEANER PIVOT PIPE
(13)	207-107D	1	UMRC ADJUSTMENT TUBE
(14)	207-108D	1	SPACER
(15)	207-214H	1	UMRC MOUNT WELD
(27) ^a	207-218S	1	LH ROW CLEANER ARM ASM
(17)	802-106C	4	RHSNB 1/2-13X1 1/2 GR5
(18)	802-046C	1	HHCS 1/2-13X5 1/2 GR5
(19)	802-673C	1	HHCS 7/16-14X1 1/4 GR5 PLT
(20)	803-020C	4	NUT HEX 1/2-13 PLT
(21)	803-169C	1	NUT HEX FLG. LOCK 1/2-13 PLT.
(22)	804-014C	1	WASHER LOCK 7/16 PLT
(23)	804-015C	4	WASHER LOCK SPRING 1/2 PLT
(24)	805-031C	1	PIN HAIR COTTER .092 WIRE
(25)	805-385C	1	PIN CLEVIS 3/8 X 3 PLT
(26)	817-084C	2	PARALLEL ARM PIVOT BUSHING

a. This part, 207-218S, is a sub-assembly containing additional parts. See following tables.

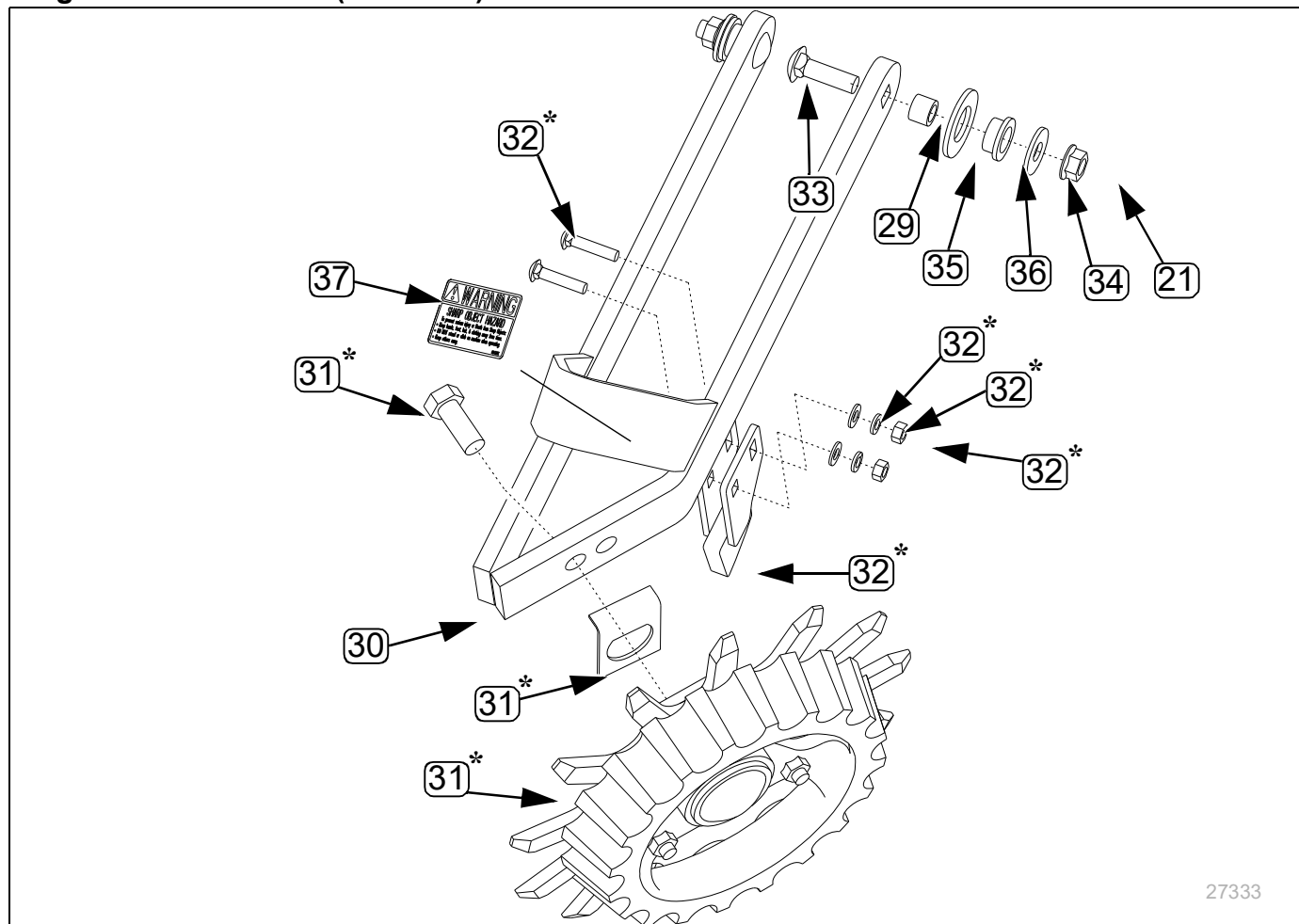
* If you obtain a complete replacement hub or wheel assembly, it may contain a washer (804-195C or comparable). This washer is not used when these cleaner wheels are installed on unit-mount arms.

Single RH UMRC Kit (207-216K)

Callout	Part Number	Quantity	Part Description
(11)	207-072D	1	UMRC MOUNT ROUND TUBE
(12)	207-106D	1	ROW CLEANER PIVOT PIPE
(13)	207-107D	1	UMRC ADJUSTMENT TUBE
(14)	207-108D	1	SPACER
(15)	207-214H	1	UMRC MOUNT WELD
(28) ^a	207-219S	1	RH ROW CLEANER ARM ASM
(17)	802-106C	4	RHSNB 1/2-13X1 1/2 GR5
(18)	802-046C	1	HHCS 1/2-13X5 1/2 GR5
(19)	802-673C	1	HHCS 7/16-14X1 1/4 GR5 PLT
(20)	803-020C	4	NUT HEX 1/2-13 PLT
(21)	803-169C	1	NUT HEX FLG. LOCK 1/2-13 PLT.
(22)	804-014C	1	WASHER LOCK 7/16 PLT
(23)	804-015C	4	WASHER LOCK SPRING 1/2 PLT
(24)	805-031C	1	PIN HAIR COTTER .092 WIRE
(25)	805-385C	1	PIN CLEVIS 3/8 X 3 PLT
(26)	817-084C	2	PARALLEL ARM PIVOT BUSHING

a. This part, 207-219S, is a sub-assembly containing additional parts. See following tables.

* If you obtain a complete replacement hub or wheel assembly, it may contain a washer (804-195C or comparable). This washer is not used when these cleaner wheels are installed on unit-mount arms.

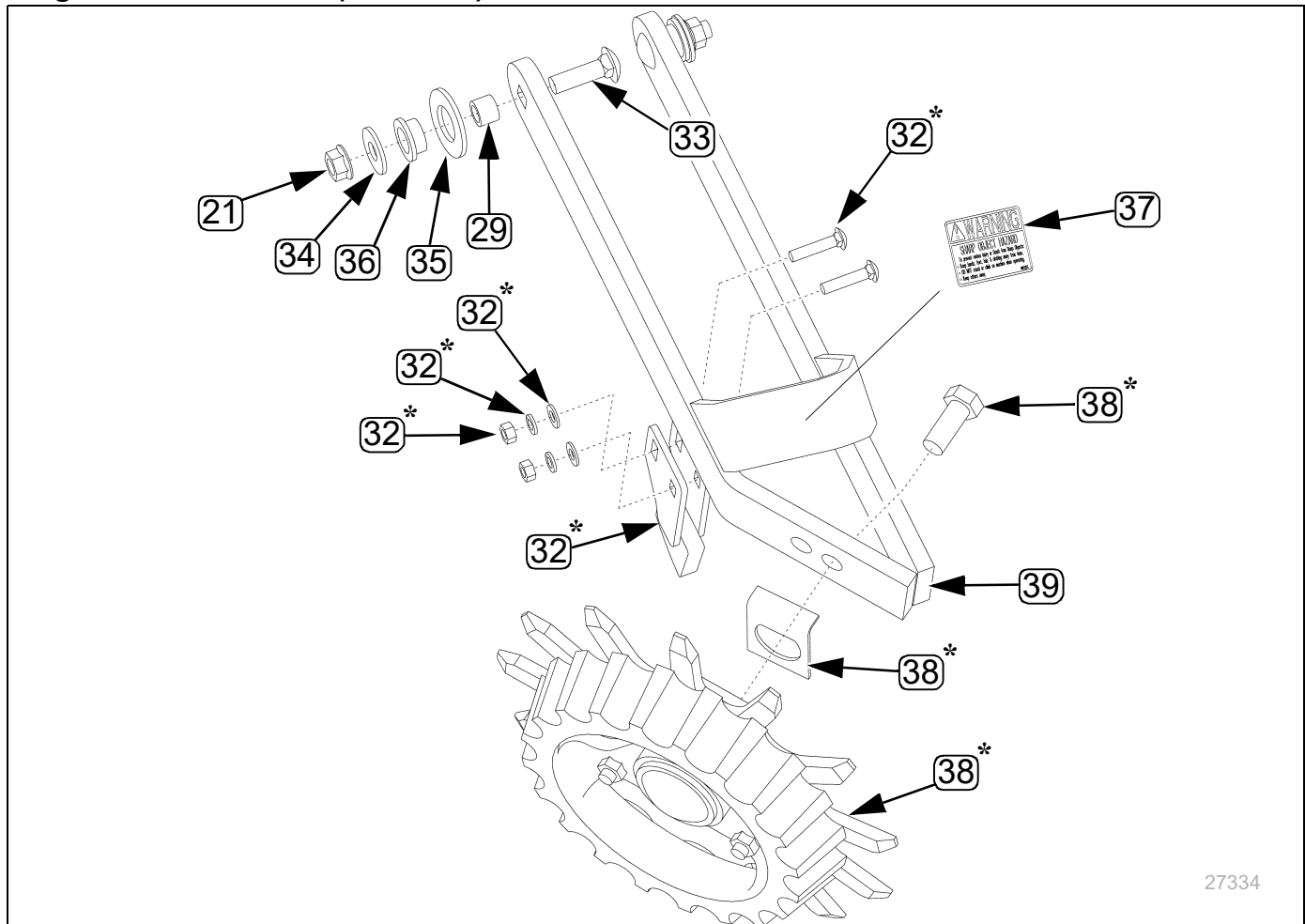
Single LH UMC-RC Kit (207-092S)

27333

Callout	Part Number	Quantity in Kit	Part Description
(29)	207-067D	2	UMC RC PIVOT TUBE
(30)	207-094H	2	SINGLE ARM RC WLD LH
(31) ^a	207-143V	1	RIGID ROW CLEANER ASM LH
(32) ^a	207-149S	1	UM ROW CLEAN DOWN STOP ASY
(33)	802-331C	2	RHSNB 1/2-13X1 3/4 GR5
(21)	803-169C	2	NUT HEX FLG. LOCK 1/2-13 PLT.
(34)	804-017C	2	WASHER FLAT 1/2 USS PLT
(35)	804-029C	2	WASHER FLAT 1 SAE
(36)	817-615C	1	RC ARM PIVOT BUSHING
(37)	818-525C	1	DECAL SHARP OBJECT WARNING

a. These parts, 207-143V and 207-149V, are sub-assemblies containing additional parts. See following tables.

* If you obtain a complete replacement hub or wheel assembly, it may contain a washer (804-195C or comparable). This washer is not used when these cleaner wheels are installed on unit-mount arms.

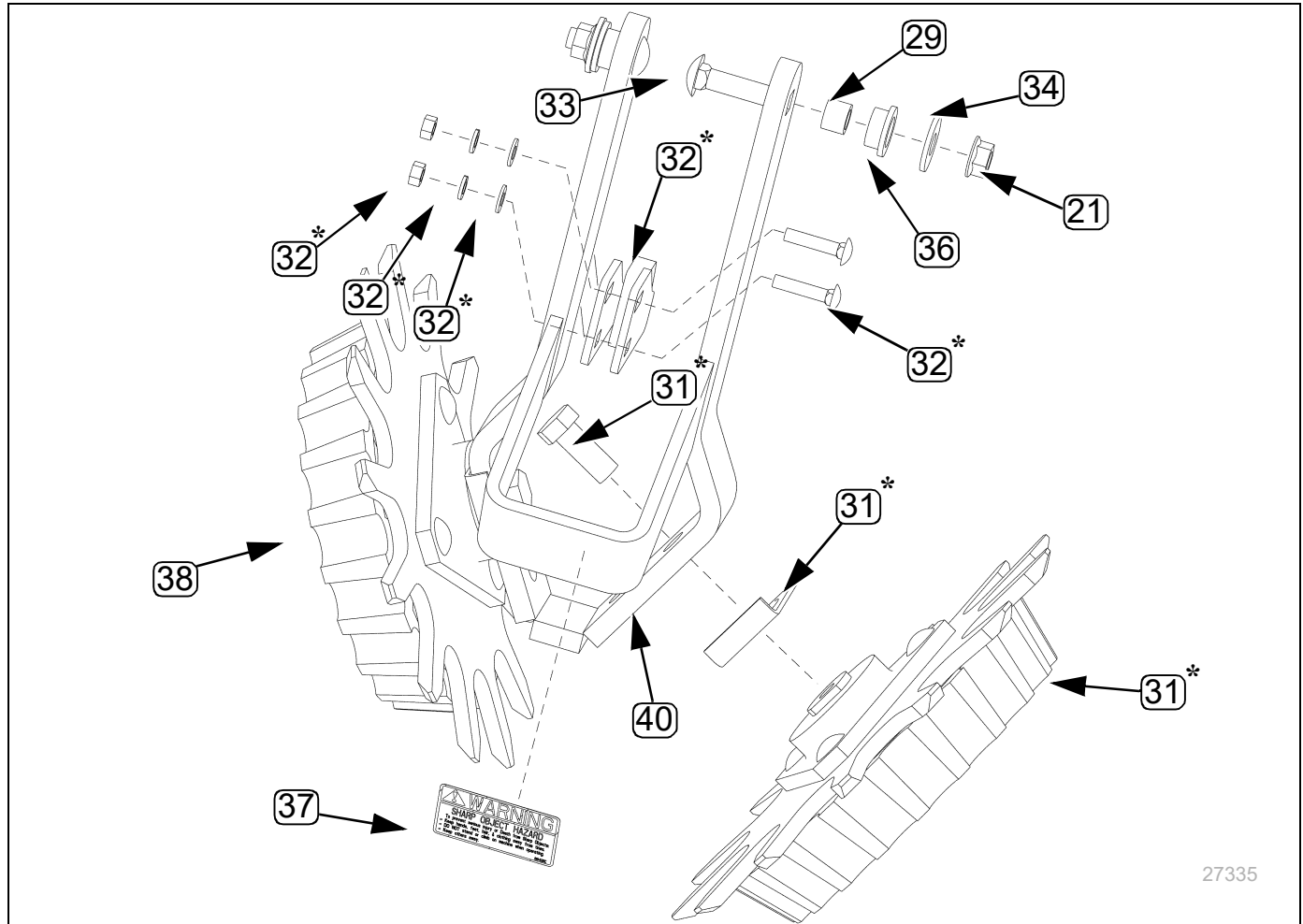
Single RH UMC-RC Kit (207-093S)

27334

Callout	Part Number	Quantity in Kit	Part Description
(21)	803-169C	2	NUT HEX FLG. LOCK 1/2-13 PLT.
(29)	207-067D	2	UMC RC PIVOT TUBE
(38) ^a	207-142V	1	RIGID ROW CLEANER ASM RH
(32) ^a	207-149S	1	UM ROW CLEAN DOWN STOP ASY
(33)	802-331C	2	RHSNB 1/2-13X1 3/4 GR5
(34)	804-017C	2	WASHER FLAT 1/2 USS PLT
(35)	804-029C	2	WASHER FLAT 1 SAE
(36)	817-615C	2	RC ARM PIVOT BUSHING
(37)	818-525C	1	DECAL SHARP OBJECT WARNING
(39)	207-095H	1	SINGLE ARM RC WLD RH

a. These parts, 207-142V and 207-149S, are sub-assemblies containing additional parts. See following tables.

* If you obtain a complete replacement hub or wheel assembly, it may contain a washer (804-195C or comparable). This washer is not used when these cleaner wheels are installed on unit-mount arms.

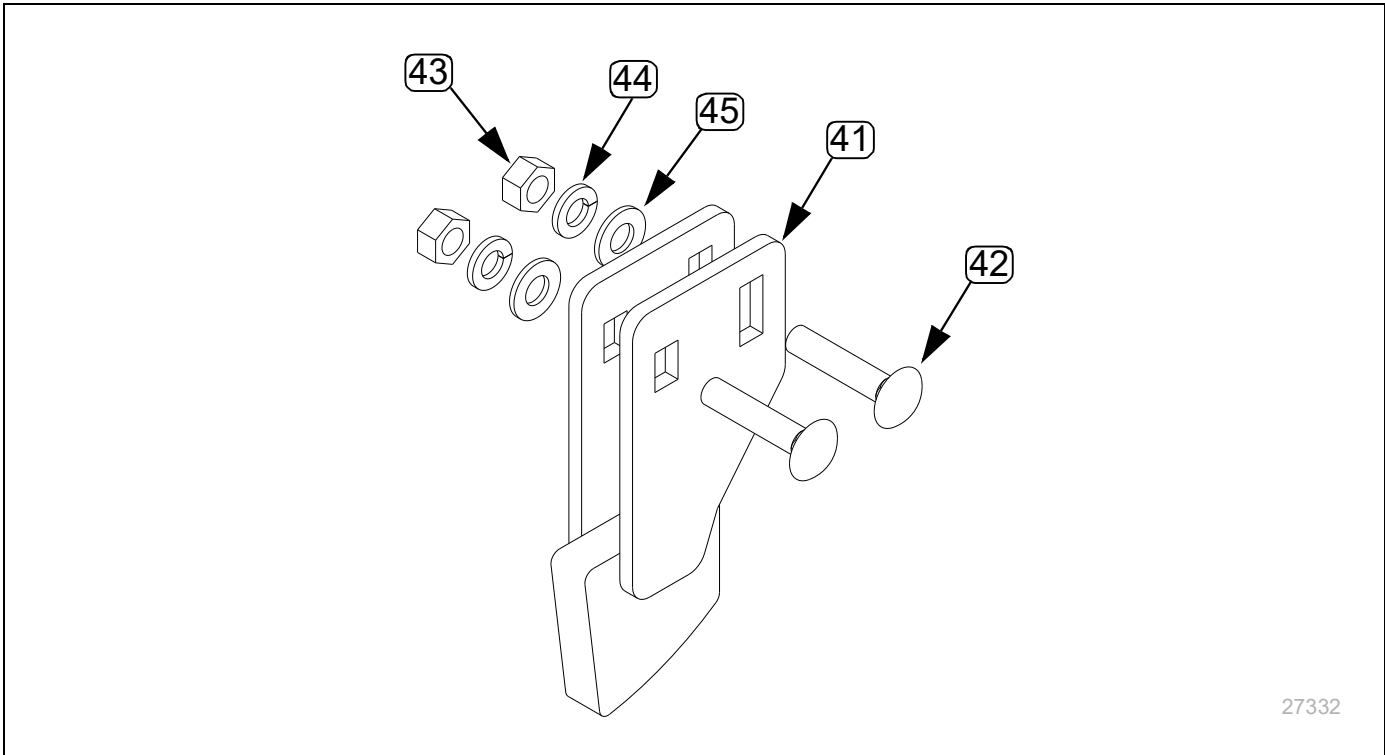
Dual UMC-RC Kit (207-098S)

Callout	Part Number	Quantity in Kit	Part Description
(21)	803-169C	2	NUT HEX FLG. LOCK 1/2-13 PLT.
(29)	207-067D	2	UMC RC PIVOT TUBE
(38) ^a	207-142V	1	RIGID ROW CLEANER ASM RH
(31) ^a	207-143V	1	RIGID ROW CLEANER ASM LH
(32) ^a	207-149S	1	UM ROW CLEAN DOWN STOP ASY
(33)	802-331C	2	RHSNB 1/2-13X1 3/4 GR5
(34)	804-017C	2	WASHER FLAT 1/2 USS PLT
(36)	817-615C	2	RC ARM PIVOT BUSHING
(40)	207-099H	1	DOUBLE ARM RC WLD
(37)	818-525C	1	DECAL SHARP OBJECT WARNING

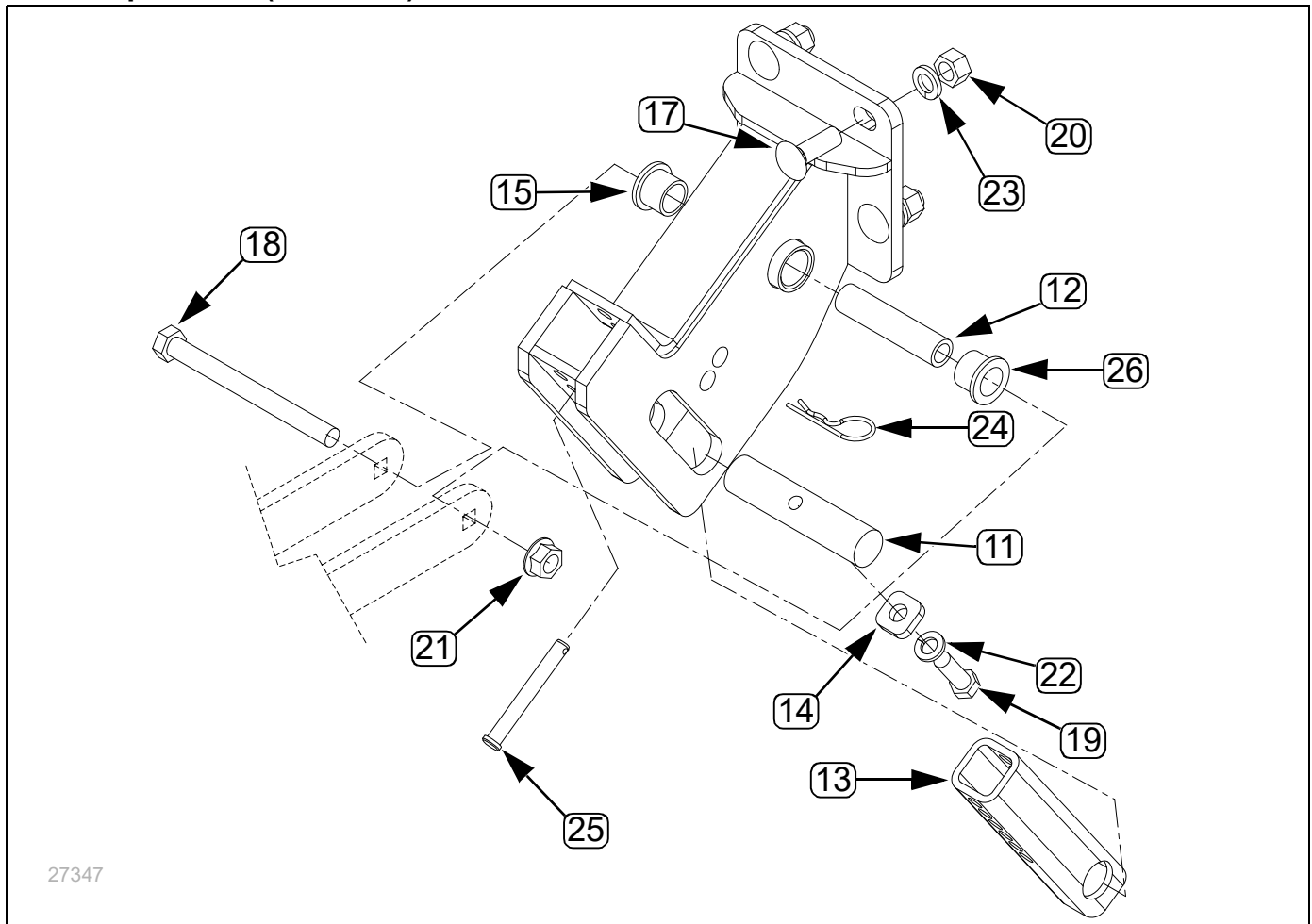
a. These parts, 207-142V, 207-143V, and 207-149S, are sub-assemblies containing additional parts. See following tables.

*If you obtain a complete replacement hub or wheel assembly, it may contain a washer (804-195C or comparable). This washer is not used when these cleaner wheels are installed on unit-mount arms.

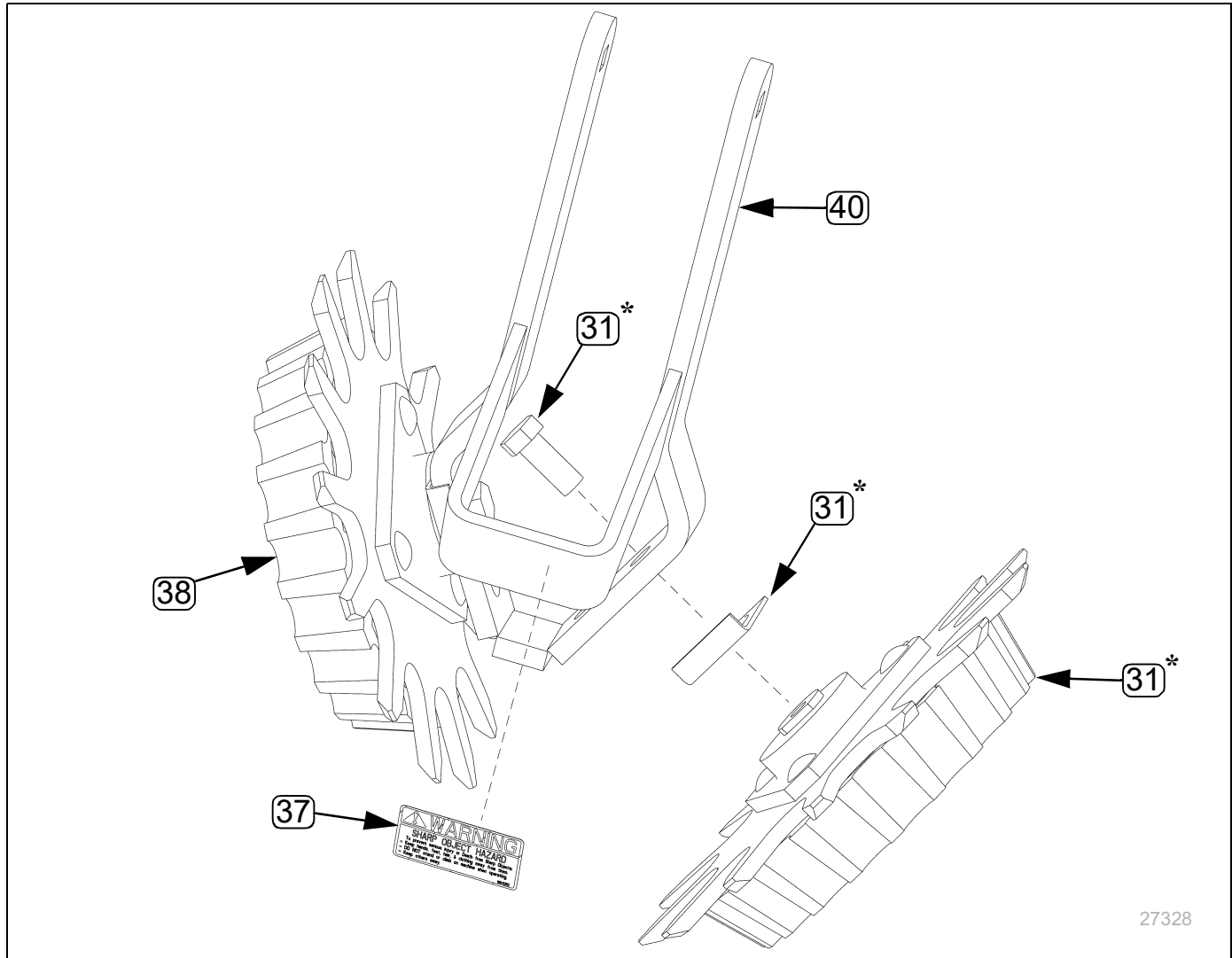
Down Stop (207-149S)



Callout	Part Number	Quantity	Part Description
(41)	207-148H	1	UM ROW CLEAN DOWN STOP WLDM
(42)	802-270C	2	RHSNB 5/16-18X1 1/2 GR5
(43)	803-008C	2	NUT HEX 5/16-18 PLT
(44)	804-009C	2	WASHER LOCK SPRING 5/16 PLT
(45)	804-036C	2	WASHER FLAT 5/16 SAE PLT

Mount Update Kit (207-221A)

Callout	Part Number	Quantity	Part Description
(11)	207-072D	1	UMRC MOUNT ROUND TUBE
(12)	207-106D	1	ROW CLEANER PIVOT PIPE
(13)	207-107D	1	UMRC ADJUSTMENT TUBE
(14)	207-108D	1	SPACER
(15)	207-214H	1	UMRC MOUNT WELD
(17)	802-106C	4	RHSNB 1/2-13X1 1/2 GR5
(18)	802-046C	1	HHCS 1/2-13X5 1/2 GR5
(19)	802-673C	1	HHCS 7/16-14X1 1/4 GR5 PLT
(20)	803-020C	4	NUT HEX 1/2-13 PLT
(22)	804-014C	1	WASHER LOCK 7/16 PLT
(23)	804-015C	4	WASHER LOCK SPRING 1/2 PLT
(24)	805-031C	1	PIN HAIR COTTER .092 WIRE
(25)	805-385C	1	PIN CLEVIS 3/8 X 3 PLT
(26)	817-084C	2	PARALLEL ARM PIVOT BUSHING

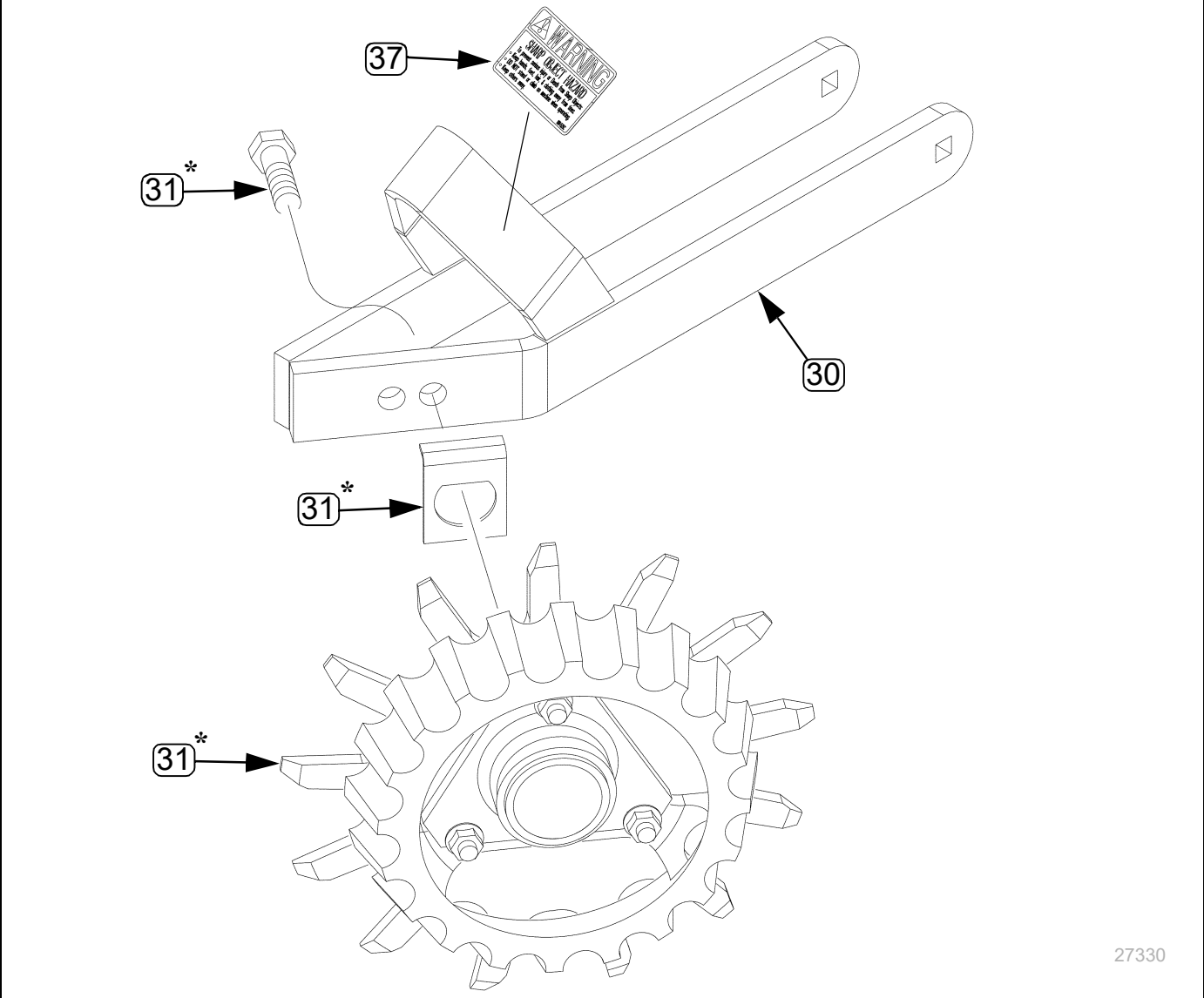
Dual Arm Assembly (207-217S)

Callout	Part Number	Quantity	Part Description
38 ^a	207-142V	1	RIGID ROW CLEANER ASM RH
31 ^a	207-143V	1	RIGID ROW CLEANER ASM LH
37	818-525C	1	DECAL SHARP OBJECT WARNING
40	207-099H	1	DOUBLE ARM RC WLD

a. These parts, 207-142V and 207-143V, are sub-assemblies containing additional parts. See following tables.

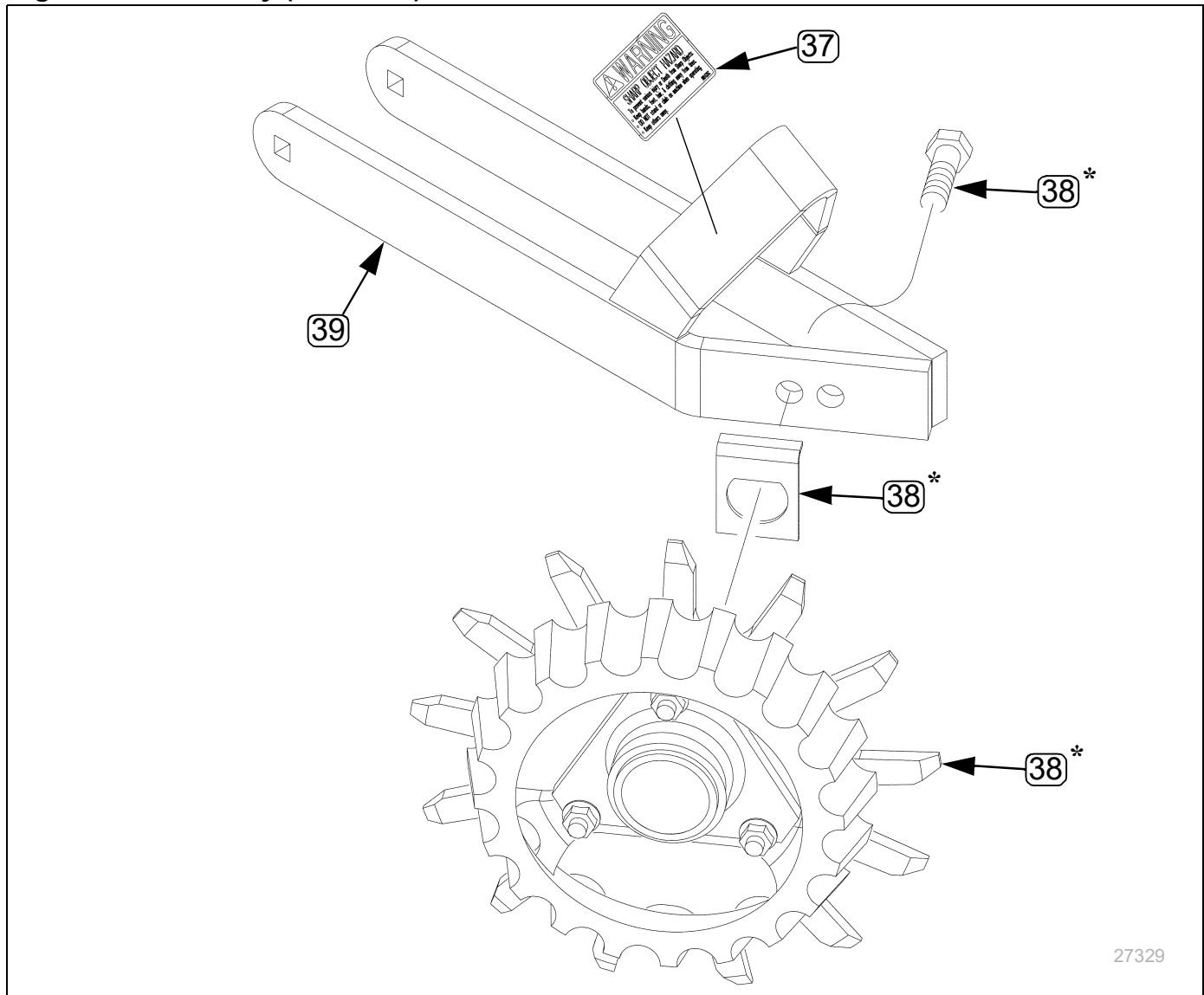
* If you obtain a complete replacement hub or wheel assembly, it may contain a washer (804-195C or comparable). This washer is not used when these cleaner wheels are installed on unit-mount arms.

Left Arm Assembly (207-218S)



Callout	Part Number	Quantity	Part Description
30	207-094H	1	SINGLE ARM RC WLD LH
31 ^a	207-143V	1	RIGID ROW CLEANER ASM LH
37	818-525C	1	DECAL SHARP OBJECT WARNING

a. The part, 207-143V, is a sub-assembly containing additional parts. See following tables.
* If you obtain a complete replacement hub or wheel assembly, it may contain a washer (804-195C or comparable). This washer is not used when these cleaner wheels are installed on unit-mount arms.

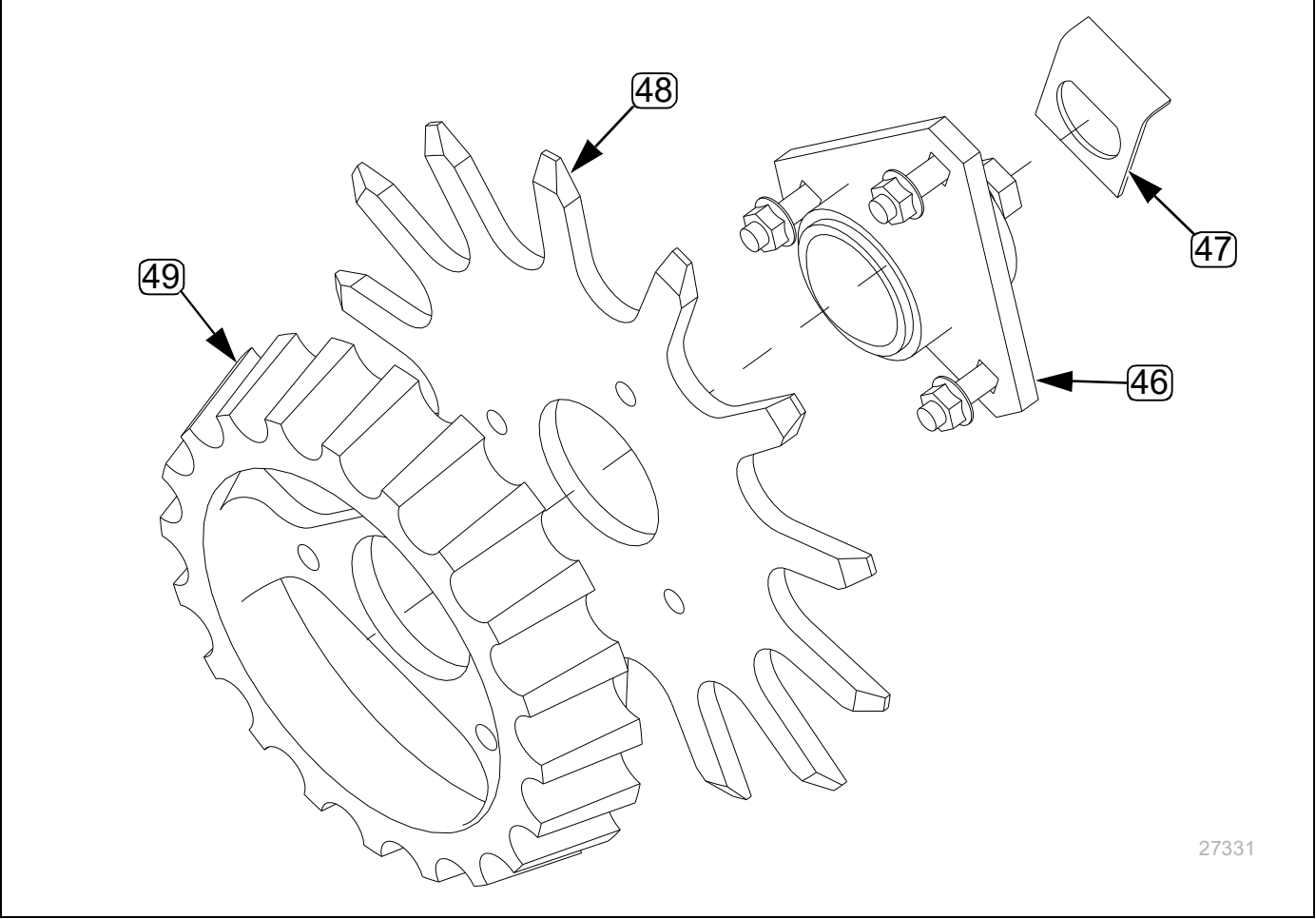
Right Arm Assembly (207-219S)

Callout	Part Number	Quantity	Part Description
(39)	207-095H	1	SINGLE ARM RC WLD RH
(38) ^a	207-142V	1	RIGID ROW CLEANER ASM RH
(37)	818-525C	1	DECAL SHARP OBJECT WARNING

a. The part, 207-142V, is a sub-assembly containing additional parts. See following tables.

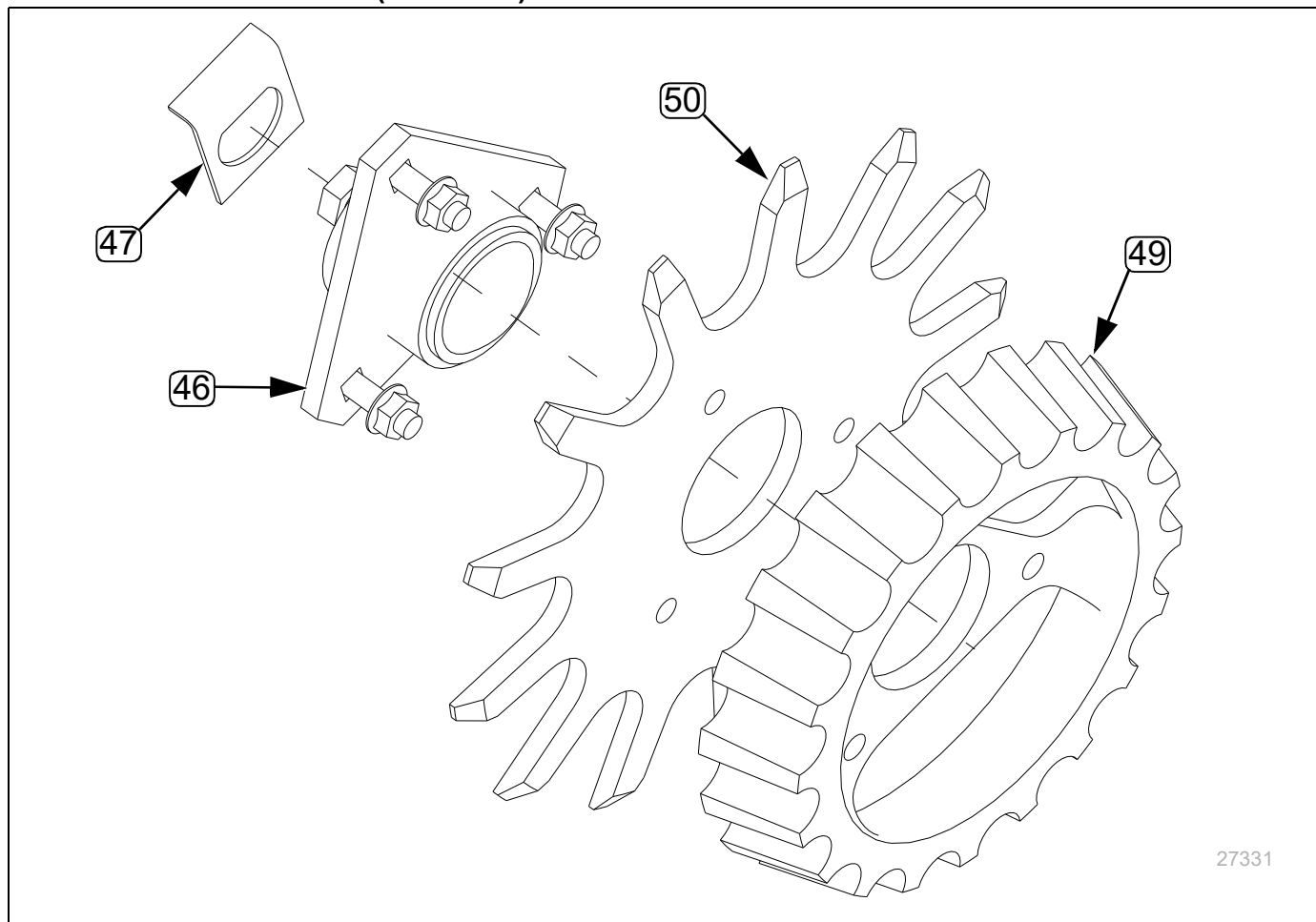
* If you obtain a complete replacement hub or wheel assembly, it may contain a washer (804-195C or comparable). This washer is not used when these cleaner wheels are installed on unit-mount arms.

Right Hand Cleaner Wheel (207-142V)



Callout	Part Number	Quantity	Part Description
(46) ^a	815-255C	1	ROW CLEANER HUB ASM Only available as a complete assembly. Not all components shown.
(47)	828-057C	1	RC HUB LOCK
(48)	828-059C	1	RIGID 13" ROW CLEANER RH
(49)	828-060C	1	DEPTH BEND WHEEL

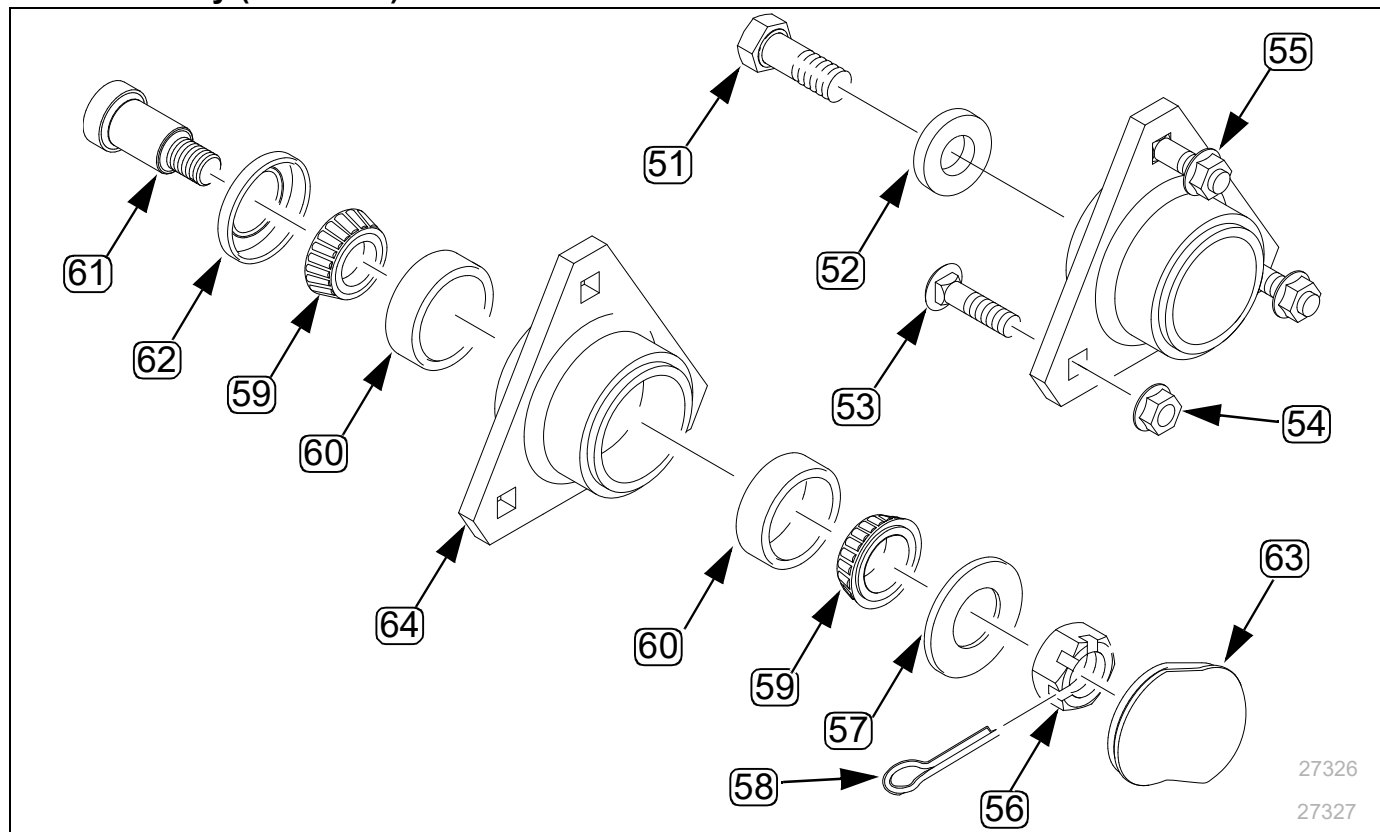
a. The part, 815-255C, is a sub-assembly containing additional parts. See following tables.
* If you obtain a complete replacement hub or wheel assembly, it may contain a washer (804-195C or comparable). This washer is not used when these cleaner wheels are installed on unit-mount arms.

Left Hand Cleaner Wheel (207-143V)

27331

Callout	Part Number	Quantity	Part Description
(46) ^a	815-255C	1	ROW CLEANER HUB ASM Only available as a complete assembly. Not all components shown.
(47)	828-057C	1	RC HUB LOCK
(49)	828-060C	1	DEPTH BEND WHEEL
(50)	828-058C	1	RIGID 13" ROW CLEANER LH

a. This part, 815-255C, is a sub-assembly containing additional parts. See following tables.

Hub Assembly (815-255C)

Callout	Part Number	Quantity	Part Description
51	802-228C	1	HHCS 5/8-11X1 1/2 GR5 NYL
52	804-195C	1	WASHER FLAT 1.31ODX.65IDX.188T *Not used in Great Plains unit-mount applications.
53	802-787C	3	RHSNB 7/16-14X1 1/2 GR5
54	803-052C	3	NUT HEX WHIZ 7/16-14 PLT
55 ^a	815-255C	1	NSO: ROW CLEANER HUB
56	803-053C	1	NUT HEX SLOTTED 3/4-16
57	804-025C	1	WASHER FLAT 3/4 SAE PLT
58	805-045C	1	PIN COTTER 5/32 X 1 1/4 LG
59	822-030C	2	BEARING CONE L44643
60	822-080C	2	BEARING CUP L44610
61	A270	1	MARTIN HA13270 SPINDLE
62	CR14971	1	MARTIN 3 LIP SEAL (JD AA26234)
63	HS1328	1	MARTIN HUB CAP
64	HU13	1	MARTIN HA13270 HUB HOUSING

a. Not all components shown; only available as a complete assembly.

* If you obtain a complete replacement hub or wheel assembly, it may contain a washer (804-195C or comparable). This washer is not used when these cleaner wheels are installed on unit-mount arms.

Abbreviations

3P	Three Point
ASM	Assembly
COT	Cotter pin
FLG	Flanged
GR5	Grade 5
HEX	Hexagonal
HHCS	Hex Head Cap Screw (Bolt)
LG	Long
LH	Left Hand
MACH	Machine
MNT	Mount
NYL	Nylock
PLT	Plated
RC	Row Cleaner

RH	Right Hand
RHSNB	Round Head Shank Neck Bolt
RHSNB	Round Head Shank Neck Bolt
SAE	Society of Automotive Engineers (standards)
TR	Twin Row
UM	Unit-Mount
UMC	Unit-Mounted Coulter
UMC-RC	UMC Row Cleaner
UMRC	Unit-Mounted Row Cleaner
USS	United States Standard (heavy-duty)
W/	with
WLD	Weldment
WLDM	Weldment
YP	Yield Pro

Warranty

Great Plains Manufacturing, Incorporated warrants to the original purchaser that this seeding equipment will be free from defects in material and workmanship for a period of one year from the date of original purchase when used as intended and under normal service and conditions for personal use; 90 days for commercial or rental purposes. This Warranty is limited to the replacement of any defective part by Great Plains Manufacturing, Incorporated and the installation by the dealer of any such replacement part. Great Plains reserves the right to inspect any equipment or part which are claimed to have been defective in material or workmanship.

This Warranty does not apply to any part or product which in Great Plains' judgement shall have been misused or damaged by accident or lack of normal maintenance or care, or which has been repaired or altered in a way which adversely affects its performance or reliability, or which has been used for a purpose for which the product is not designed. This Warranty shall not apply if the product is towed at a speed in excess of 20 miles per hour.

Claims under this Warranty must be made to the dealer which originally sold the product and all warranty adjustments must be made through such dealer. Great Plains reserves the right to make changes in materials or design of the product at any time without notice.

This Warranty shall not be interpreted to render Great Plains liable for damages of any kind, direct, consequential, or contingent, to property. Furthermore, Great Plains shall not be liable for damages resulting from any cause beyond its reasonable control. This Warranty does not extend to loss of crops, losses caused by harvest delays or any expense or loss for labor, supplies, rental machinery or for any other reason.

No other warranty of any kind whatsoever, express or implied, is made with respect to this sale; and all implied warranties of merchantability and fitness for a particular purpose which exceed the obligations set forth in this written warranty are hereby disclaimed and excluded from this sale.

This Warranty is not valid unless registered with Great Plains Manufacturing, Incorporated within 10 days from the date of original purchase.



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