

Row Cultivator

Model 8315

Part No. L125-033

Foreword

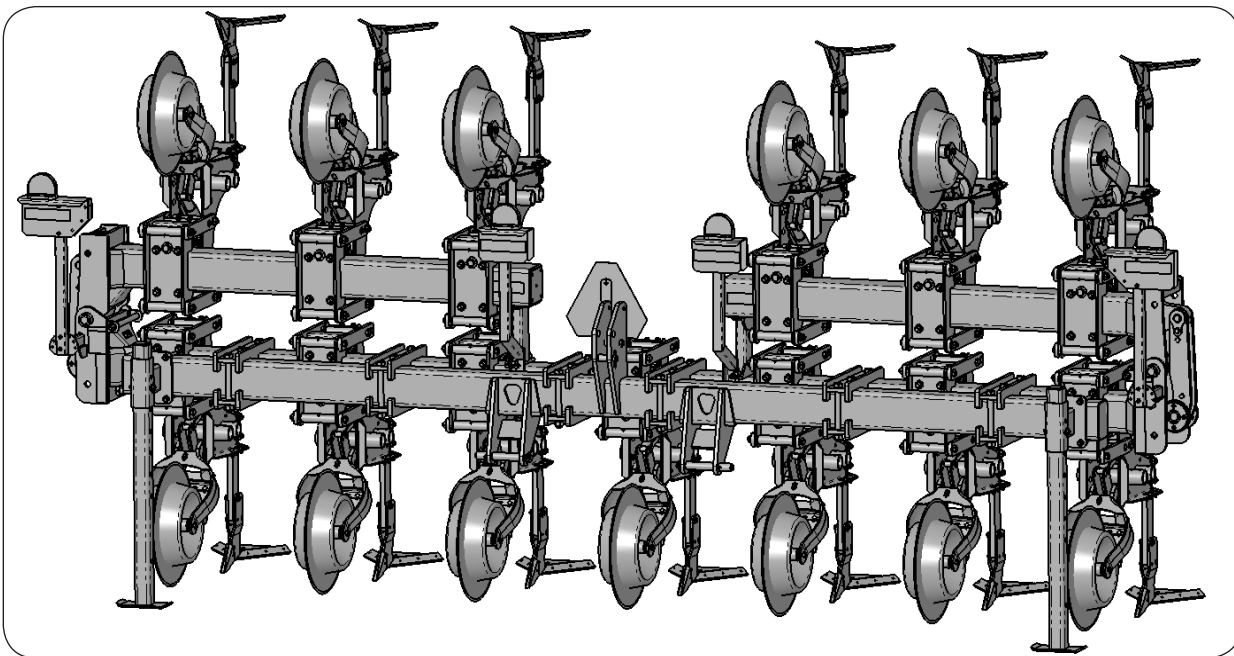


This symbol identifies important safety messages. When you see it, read the message that follows and be alert to the possibility of personal injury.

Remember, safety instructions stated in this manual are for your protection. Read them carefully and follow them closely when working around or using this machine.

Read and study this manual completely before attempting to operate this implement. Take this manual to the field for handy reference when operating, adjusting, or servicing your machine.

When referenced, “Right-Hand” (RH) and “Left-Hand” (LH) side of the machine are determined by standing behind the machine and facing in the direction of travel.



Product Information

Please fill out and retain this portion for your records. All products manufactured by Unverferth Mfg. Co., Inc. are warranted to be free from material and workmanship defects for one full year from time of consumer delivery. Your local dealer will gladly assist you with any warranty questions.

The serial number plate is located as shown below.

Product _____

Serial Number _____

Date of Purchase _____

Dealer _____

City _____ State _____ Zip _____

Please supply this information when you have questions or when ordering repair or replacement parts. Your dealer needs this information to give you prompt, efficient service.

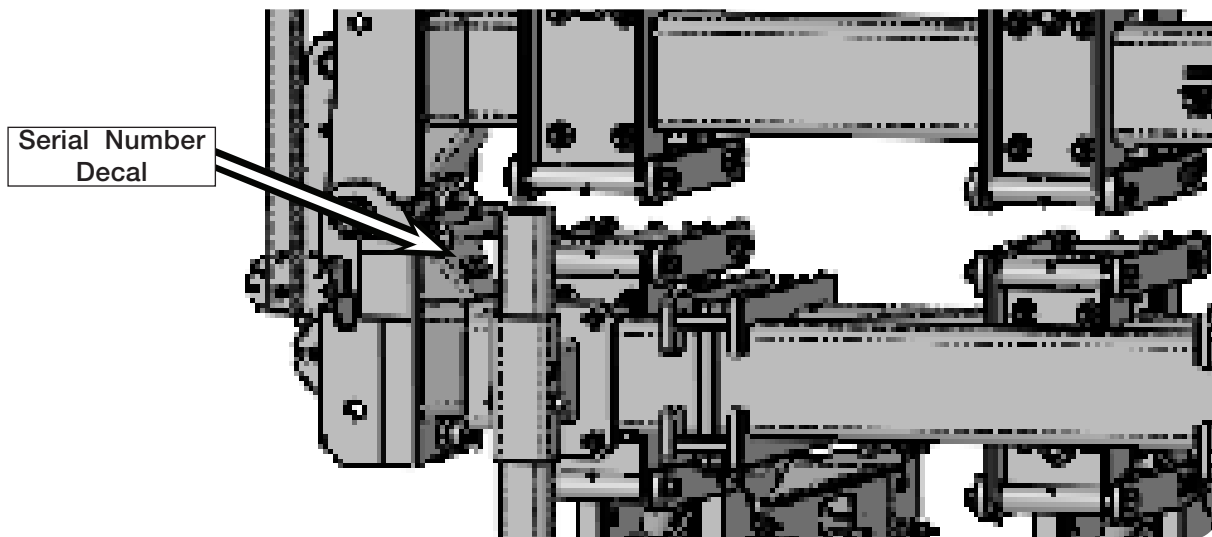


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General Hazard Information

No accident-prevention program can be successful without the wholehearted cooperation of the person who is directly responsible for the operation of the equipment.

A large number of accidents can be prevented only by the operator anticipating the result before the accident is caused and doing something about it. No power-driven equipment, whether it be transportation or processing, whether it is on the highway, in the field, or in the industrial plant, can be safer than the person who is at the controls. If accidents are to be prevented--and they can be prevented--it will be done by the operators who accept the full measure of their responsibility.

It is true that the designer, the manufacturer, and the safety engineer can help; and they will help, but their combined efforts can be wiped out by a single careless act of the operator.

It is said that, "the best kind of a safety device is a careful operator." We, at Unverferth Mfg. Co., Inc. ask that you be that kind of operator.



REMEMBER:
THINK SAFETY
A CAREFUL OPERATOR IS THE
BEST INSURANCE AGAINST AN
ACCIDENT!

SIGNAL WORDS

 **DANGER**

INDICATES AN EXTREMELY HAZARDOUS SITUATION OR ACTION THAT WILL RESULT IN SERIOUS INJURY OR DEATH.

 **WARNING**

INDICATES A HAZARDOUS SITUATION OR ACTION THAT COULD RESULT IN SERIOUS INJURY OR DEATH.

 **CAUTION**

INDICATES AN UNSAFE SITUATION OR ACTION THAT MAY RESULT IN PERSONAL INJURY.

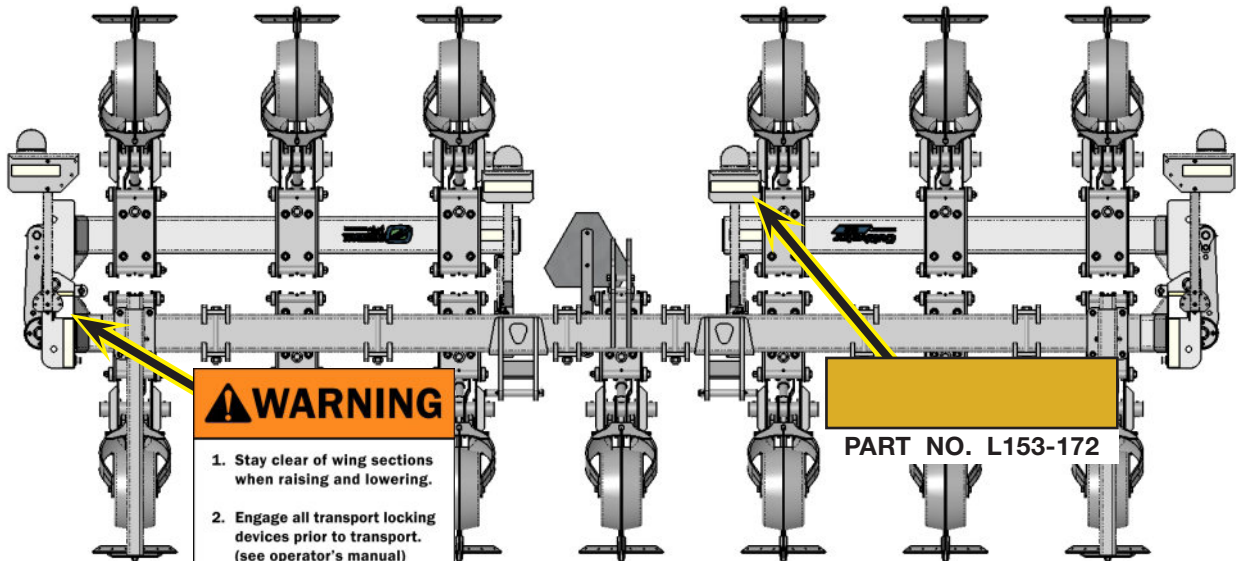
IMPORTANT

Is used for instruction on operating, adjusting, or servicing a machine.

Safety Decals

⚠ WARNING

- REPLACE LOST, DAMAGED, PAINTED, OR UNREADABLE DECALS IMMEDIATELY. IF PARTS THAT HAVE DECALS ARE REPLACED, ALSO MAKE SURE TO INSTALL NEW DECALS. THESE DECALS INFORM AND REMIND THE OPERATOR WITH OPERATIONAL INFORMATION AND SAFETY MESSAGES.



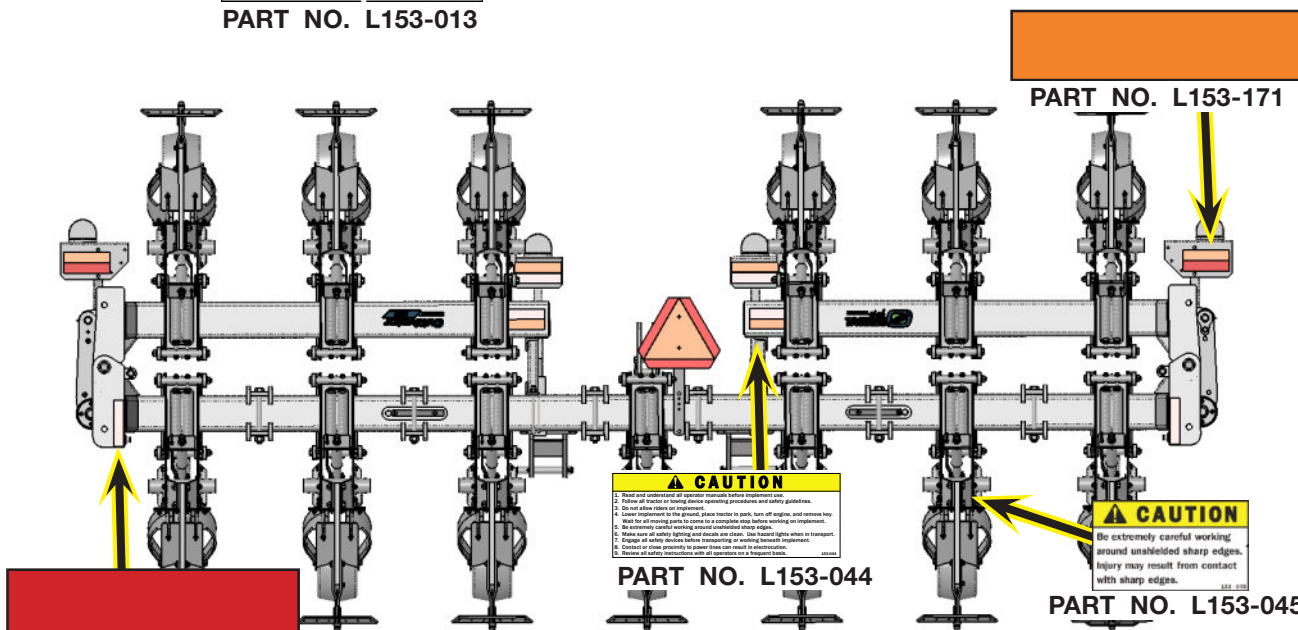
⚠ WARNING

1. Stay clear of wing sections when raising and lowering.
2. Engage all transport locking devices prior to transport. (see operator's manual)
3. Use extreme caution when in transport. Be aware of overhead power lines and any other obstructions.
4. Reduce speed as raised implement reduces tractor maneuverability.

153-013

PART NO. L153-013

PART NO. L153-172



PART NO. L153-171

PART NO. L153-173

⚠ CAUTION

1. Read and understand the operator's manual before operation.
 2. Follow all tractor or towing device operating procedures and safety guidelines.
 3. Do not allow other people to implement.
 4. Do not allow other people to park, back up, or reverse the tractor.
 5. Do not disassemble or adjust the implement.
 6. Wait for all moving parts to come to a complete stop before working on implement.
 7. Be extremely careful working around unshielded sharp edges.
 8. Make sure all safety lighting and decals are clean. Use hazard lights when in transport.
 9. Change all safety decals before transporting or working beneath implement.
 10. Replace all safety decals to ensure they are clearly visible.
 11. Review all safety instructions with all operators on a frequent basis.





PART NO. L153-044

⚠ CAUTION


Be extremely careful working around unshielded sharp edges. Injury may result from contact with sharp edges.

PART NO. L153-045

Following Safety Instructions

- Read and understand this operator's manual before operating. 
- All machinery should be operated only by trained and authorized personnel.
- To prevent machine damage, use only attachments and service parts approved by the manufacturer.
- Always shut tractor engine off and remove key before servicing. 
- Avoid personal attire such as loose fitting clothing, shoestrings, drawstrings, pants cuffs, long hair, etc., that may become entangled in moving parts.
- Do not allow anyone to ride on the implement. Make sure everyone is clear before operating machine or towing vehicle. 
- Never attempt to operate implement unless you are in driver's seat. 

Before Servicing or Operating

- Avoid working under an implement; however, if it becomes absolutely unavoidable, make sure the implement is safely blocked. 
- Ensure that all applicable safety decals are installed and legible.
- When working around the implement, be careful not to be cut by sharp edges.
- Do not stand between towing vehicle and implement during hitching.
- Always make certain everyone and everything is clear of the machine before beginning operation.

During Operation

- Regulate speed to working conditions. Maintain complete control at all times.
- Never service or lubricate equipment when in operation.
- Use extreme care when operating close to ditches, fences, or on hillsides.
- Do not leave towing vehicle unattended with engine running.

Before Transporting

- Install transport locks before transporting.
- Check for proper function of all available transport lights. Make sure that all reflectors are clean and in place on machine. Make sure that the SMV emblem and SIS decal are visible to approaching traffic.

During Transport

- Comply with all laws governing highway safety when moving machinery.
- Use transport lights as required by all laws to adequately warn operators of other vehicles.
- Use good judgment when transporting equipment on highways. Regulate speed to road conditions and maintain complete control.
- Slow down before making sharp turns to avoid tipping. Drive slowly over rough ground and side slopes.

Preparing for Emergencies

- Keep a first aid kit and properly rated fire extinguisher nearby.



- Keep emergency numbers for fire, rescue, and poison control personnel near the phone.



Wearing Protective Equipment

- Wear clothing and personal protective equipment appropriate for the job.



- Wear steel-toed shoes when operating.



- Wear hearing protection when exposed to loud noises.



- Do not wear additional hearing impairing devices such as radio headphones, etc



SECTION II

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General Set Up Information

This section contains all of the instructions required for the complete assembly of the cultivator.

For your safety, and the safety of others, use proper tools and equipment and always use safe working procedures. Refer to these instructions before starting any work on your machine.

IMPORTANT

- *The procedures for assembling this unit are intended for two or more people.*

For ease of assembly, install all hardware loosely until assembly is complete and then tighten according to “Torque Chart” in MAINTENANCE section unless otherwise specified.

⚠ WARNING

- **KNOW AND UNDERSTAND SAFETY RULES BEFORE OPERATING OR SERVICING THIS MACHINE. REVIEW "SAFETY" SECTION IN YOUR MANUAL IF NECESSARY.**
- **EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING THE IMPLEMENT.**
- **KEEP HANDS CLEAR OF PINCH POINT AREAS.**
- **FALLING OBJECTS CAN CAUSE SERIOUS INJURY OR DEATH. DO NOT WORK UNDER THE MACHINE AT ANY TIME WHILE BEING HOISTED. BE SURE ALL LIFTING DEVICES AND SUPPORTS ARE RATED FOR THE LOADS BEING HOISTED. THESE ASSEMBLY INSTRUCTIONS WILL REQUIRE SAFE LIFTING DEVICES UP TO 1,000 LBS. SPECIFIC LOAD RATINGS FOR INDIVIDUAL LOADS WILL BE GIVEN AT THE APPROPRIATE TIME IN THE INSTRUCTIONS.**
- **TIPPING OR MOVEMENT OF THE MACHINE CAN CAUSE SERIOUS INJURY OR DEATH. BE SURE THE MACHINE IS SECURELY BLOCKED.**
- **MOVING PARTS CAN CRUSH AND CUT. KEEP AWAY FROM MOVING PARTS.**

Basic Set Up

Due to shipping requirements and various dealer-installed options, some initial implement set up will be required after it arrives from the factory. Use the following procedures as needed for initial implement set up.

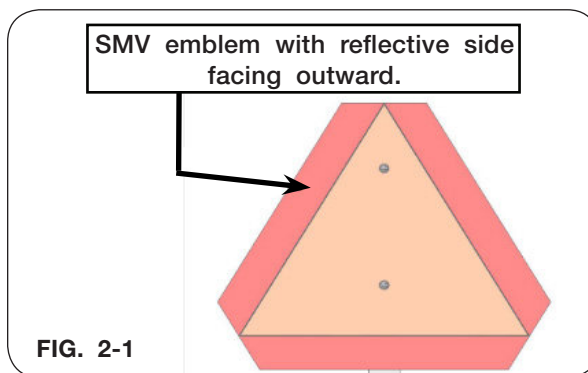
Hydraulic System

Check all hoses and cylinders for signs of leakage. Hoses should not be kinked, twisted or rubbing against sharp edges. Re-route or repair hoses as necessary. Refer to SAFETY section for additional information on safe repair and inspection of hydraulic components.

SMV Emblem

Before the implement is used the reflective surface of the SMV must face rearward. This may require removal of film protecting the reflective surface or removing and reinstallation of the SMV.

When reinstalling the SMV make sure that it is mounted with the wide part of the SMV at the bottom. (Fig. 2-1)



Light and Light Bracket Set Up

For Outer Lights:

NOTE: The left and right light brackets should be adjusted according to the degree at which the wings fold.

1. Remove the hex nut and capscrew from the top of the light bracket mount. (Fig. 2-2)
2. Loosen the capscrew and nut on the bottom of the light bracket mount.
2. Adjust the light bracket to the desired position pictured below.
3. Install the capscrew and hex nut into the light bracket mount, then tighten to the specification listed in the maintenance section. (Fig. 2-2)
5. Tighten the capscrew and hex nut on the bottom of the light bracket mount.

FIG. 2-2

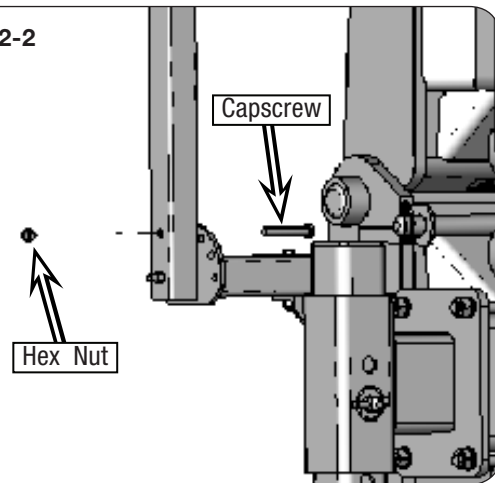


FIG. 2-3

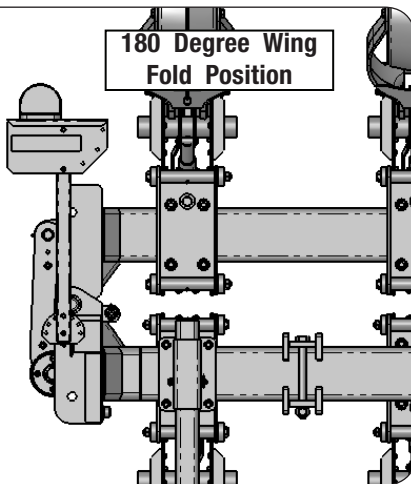


FIG. 2-4

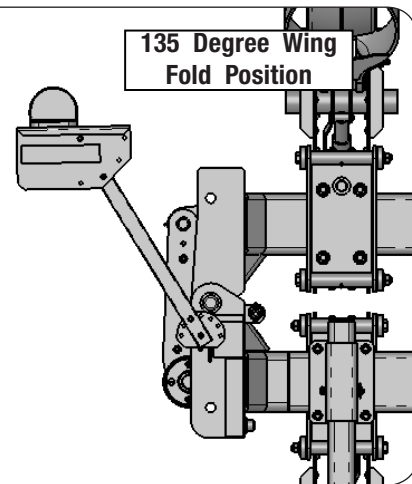


FIG. 2-5

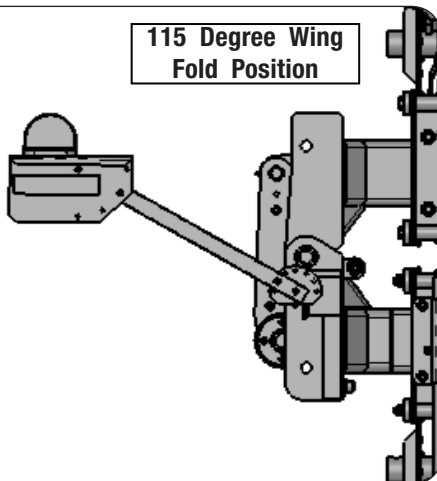
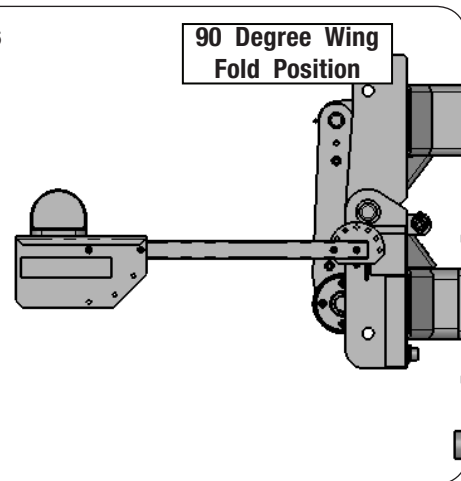


FIG. 2-6

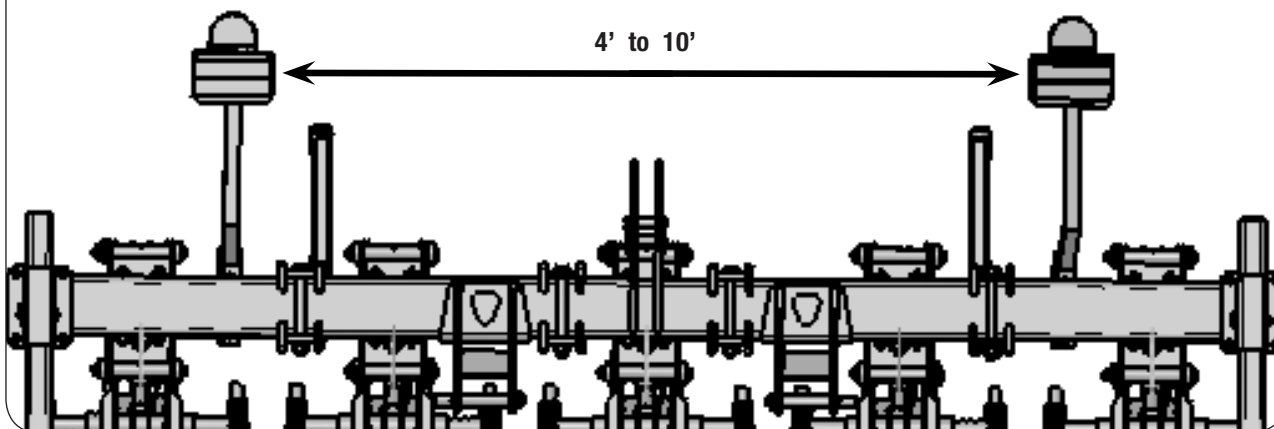


Light and Light Bracket Set Up

For Inner Lights:

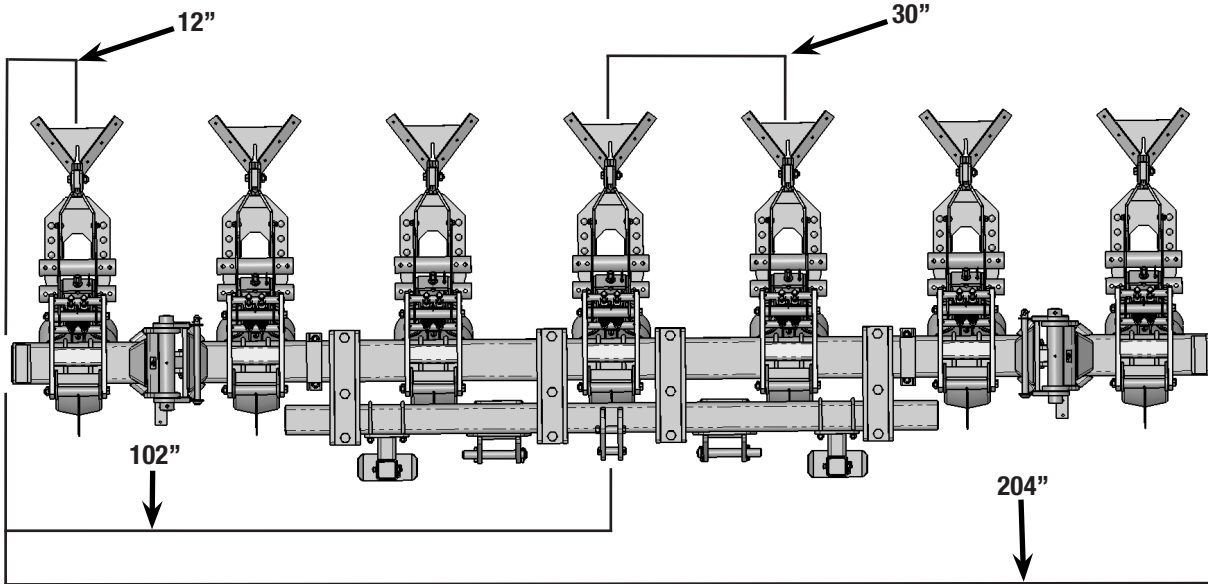
Inner light brackets must each be mounted equally from the center of the toolbar and be a total distance of between 4' and 10' from each other. The inner red lights will only have a lense on one side of the light and it should be visible from the rear of the toolbar.

FIG. 2-7

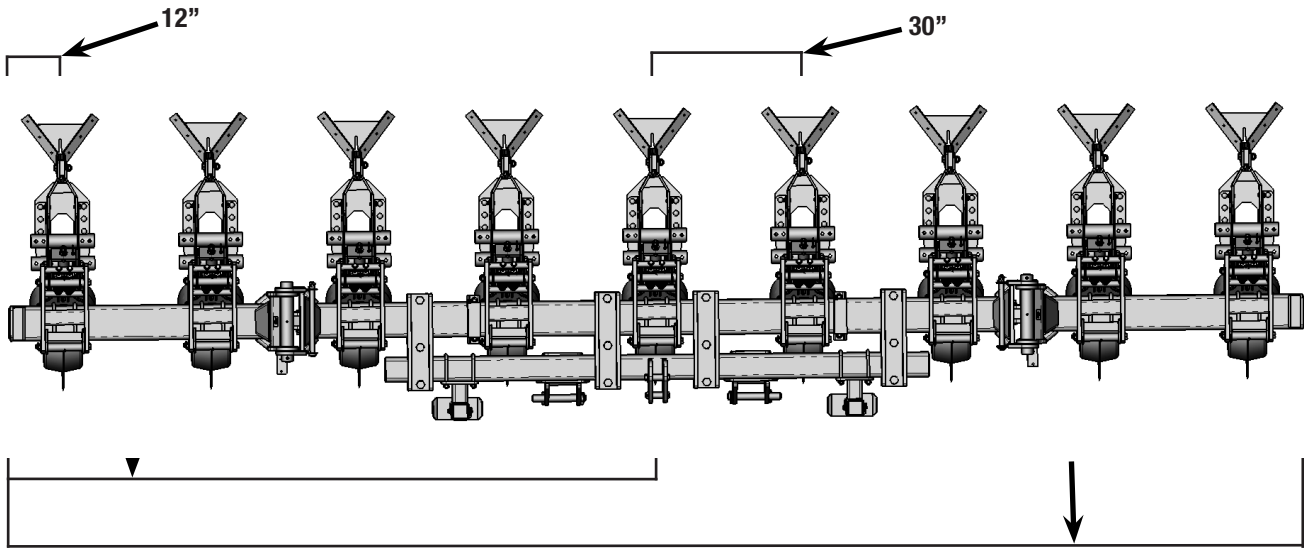


Overhead Layouts

6 Row 30" Spacing Configuration

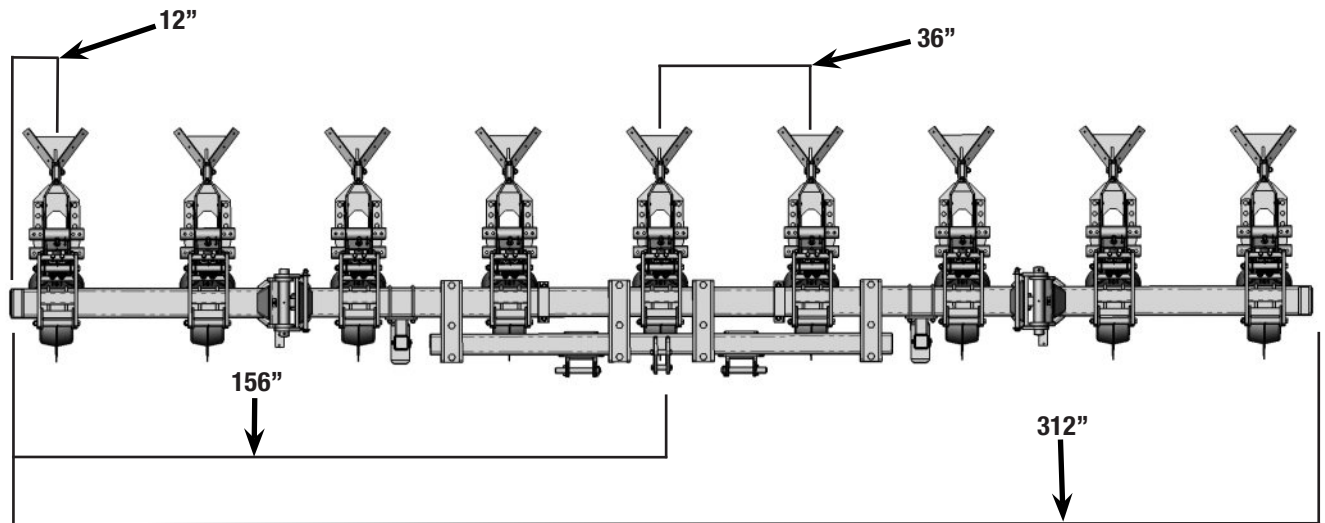


8 Row 30" Spacing Configuration

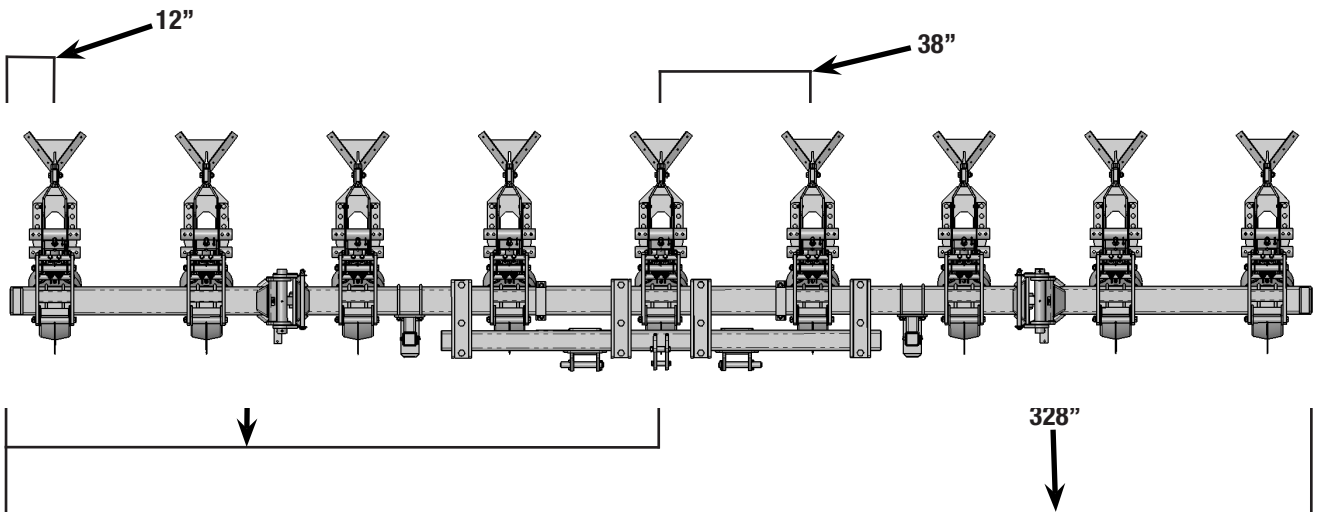


Overhead Layouts

8 Row 36" Spacing Configuration

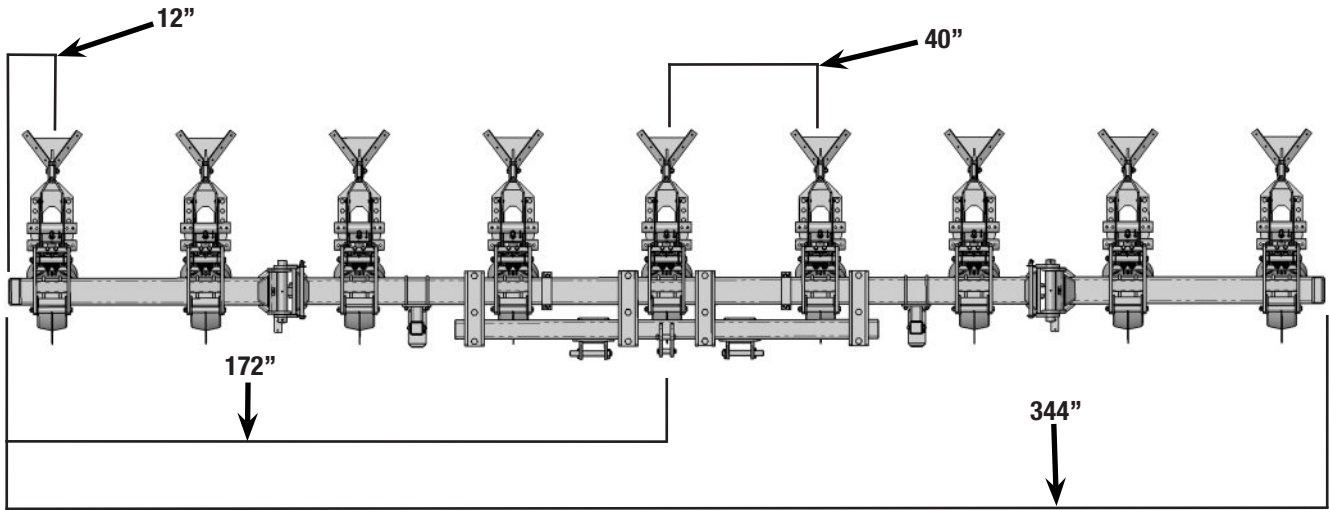


8 Row 38" Spacing Configuration

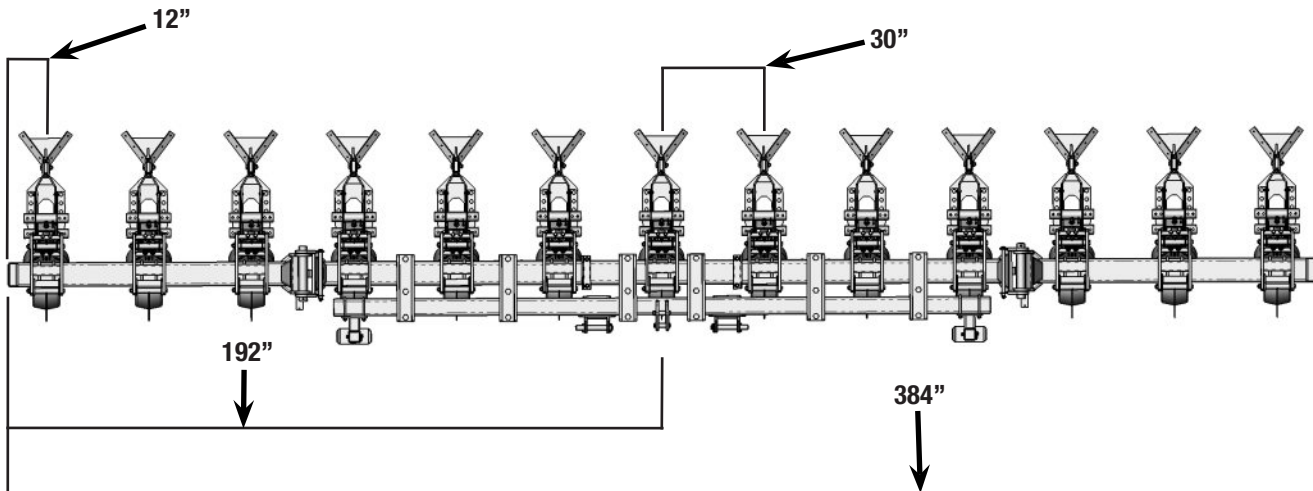


Overhead Layouts

8 Row 40" Spacing Configuration

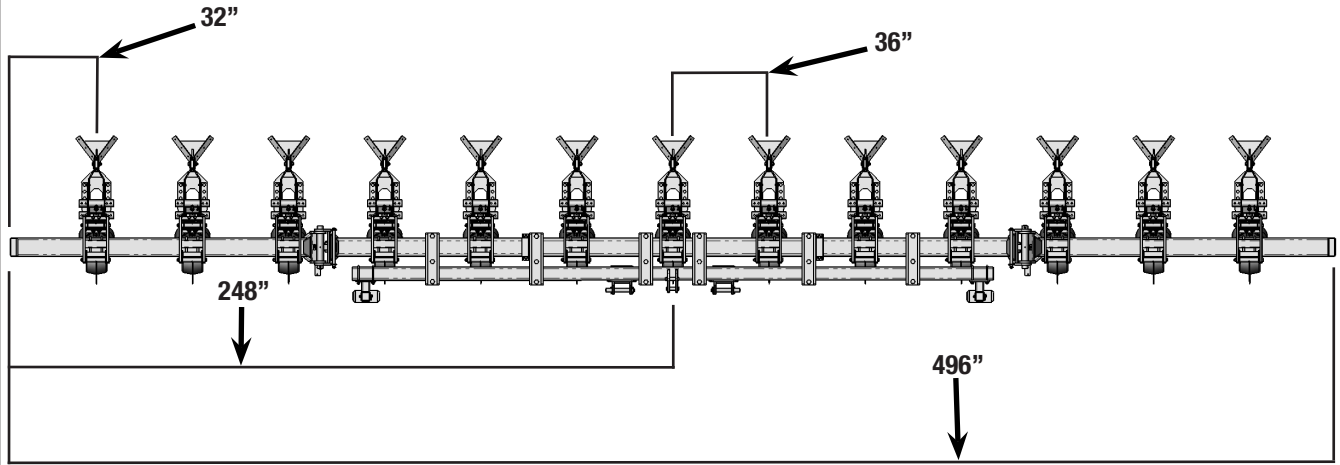


12 Row 30" Spacing Configuration

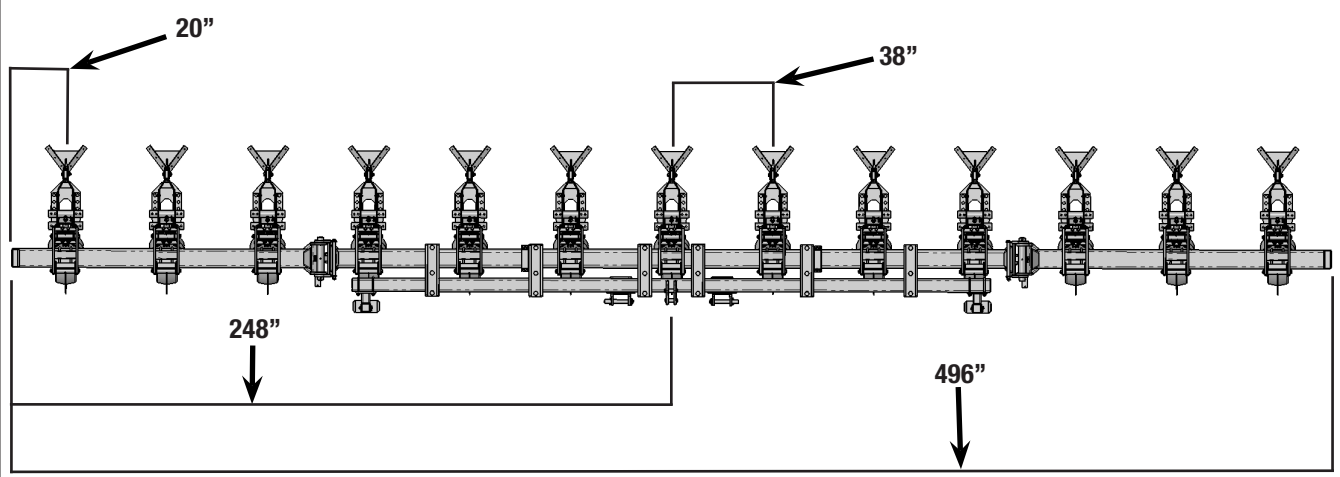


Overhead Layouts

12 Row 36" Spacing Configuration

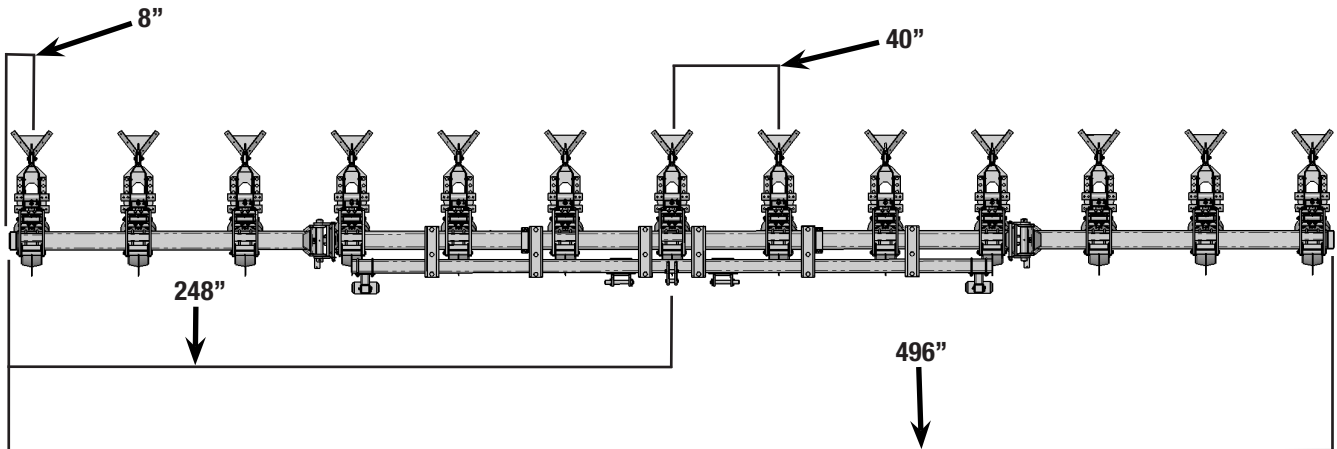


12 Row 38" Spacing Configuration

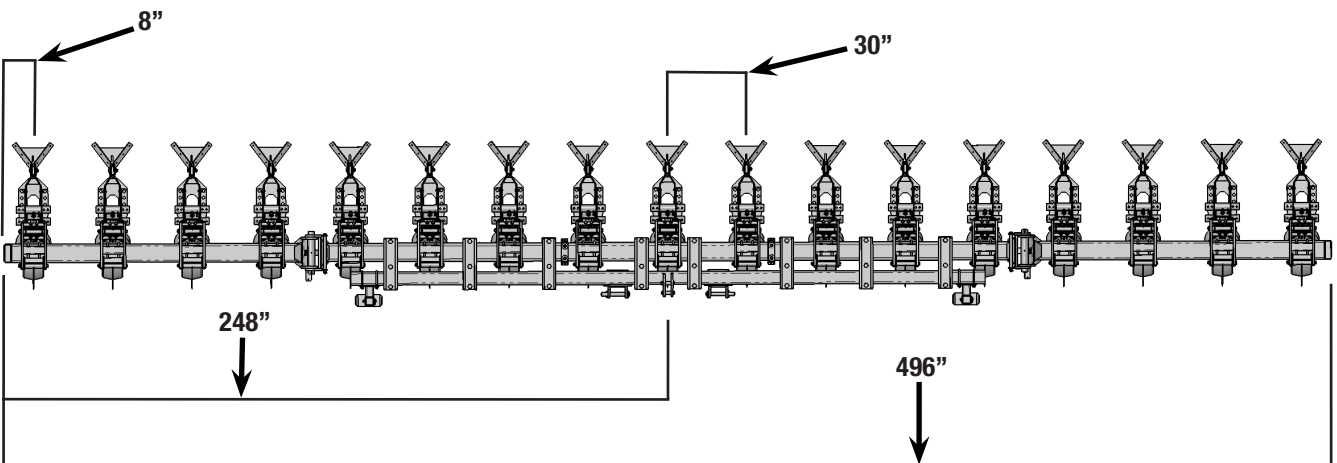


Overhead Layouts

12 Row 40" Spacing Configuration

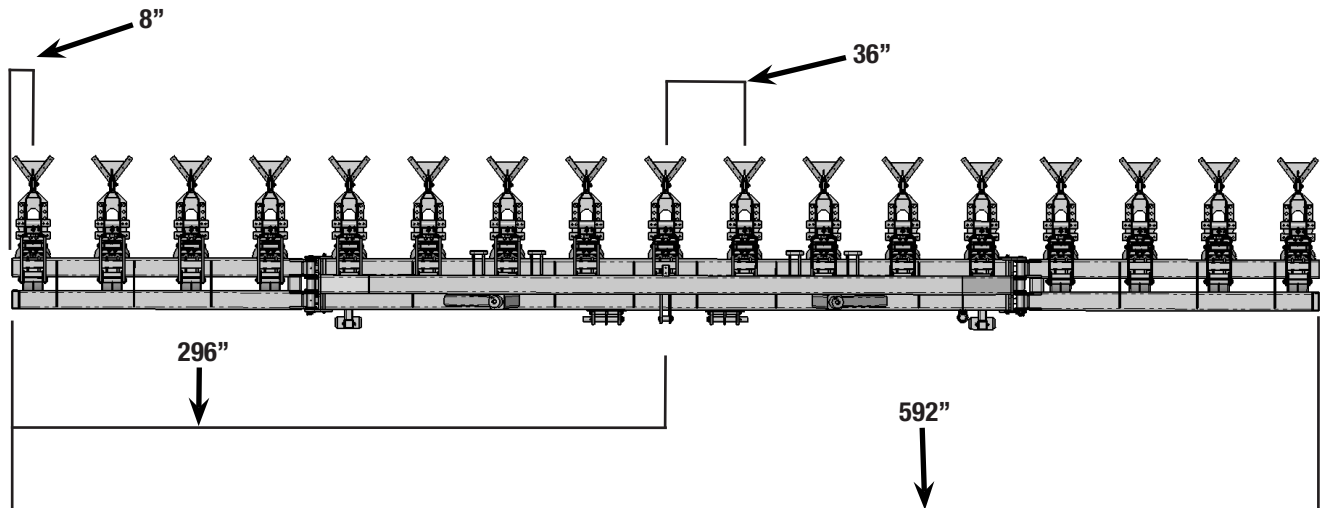


16 Row 30" Spacing Configuration

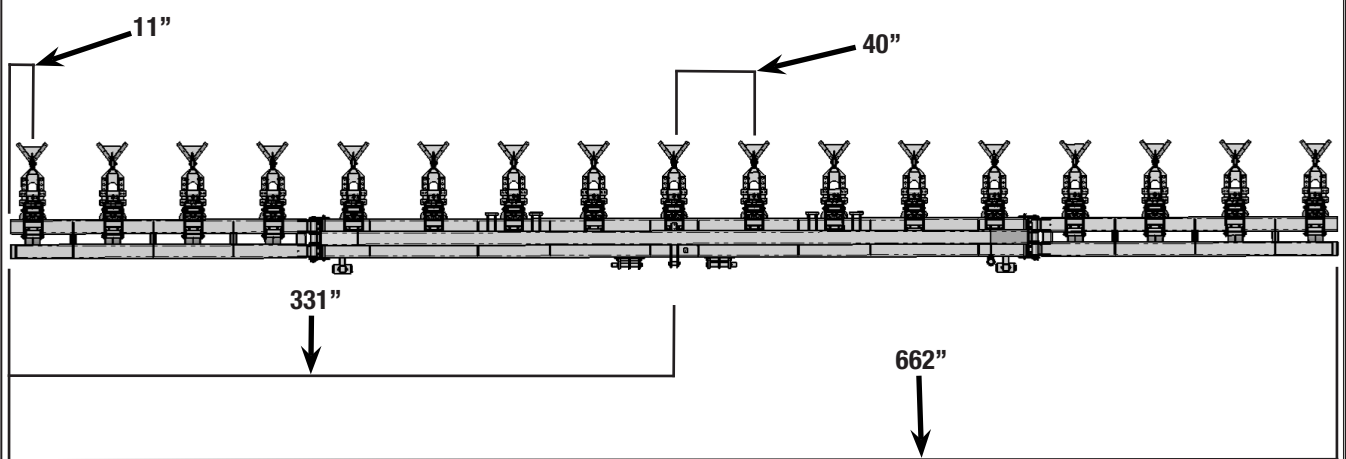


Overhead Layouts

16 Row 36" Spacing Configuration

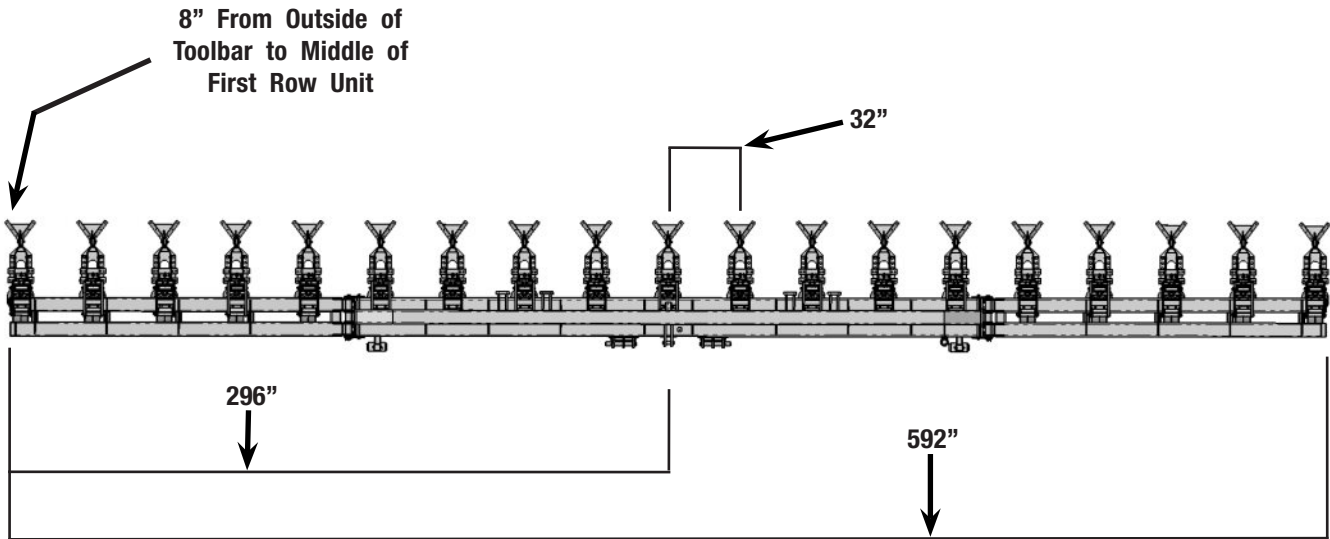


16 Row 40" Spacing Configuration

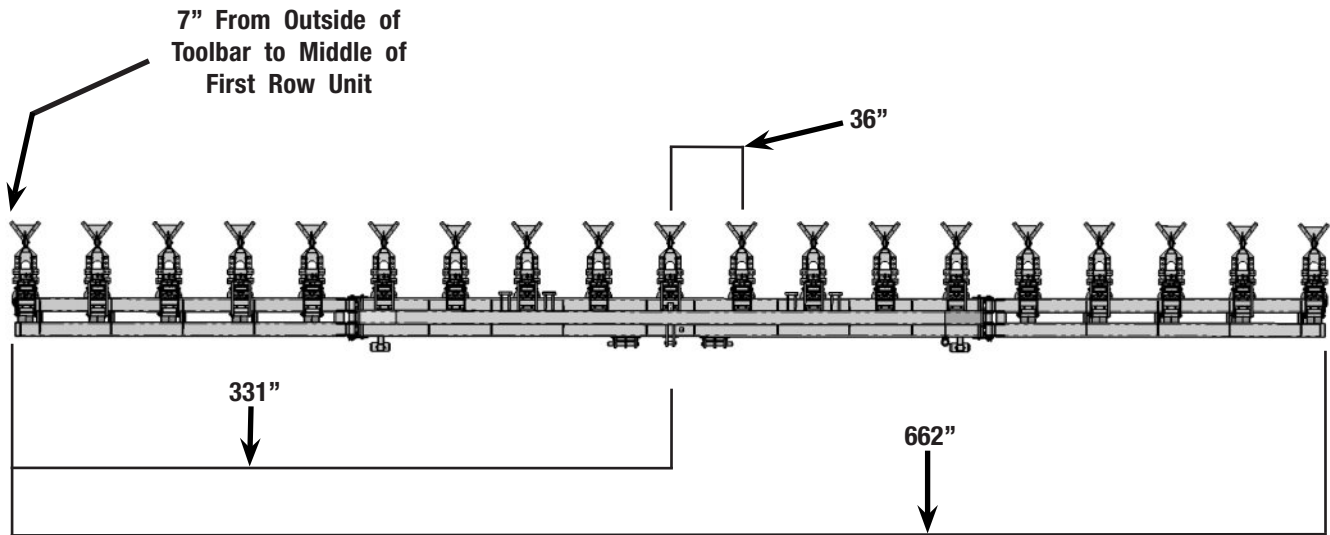


Overhead Layouts

18 Row 32" Spacing Configuration

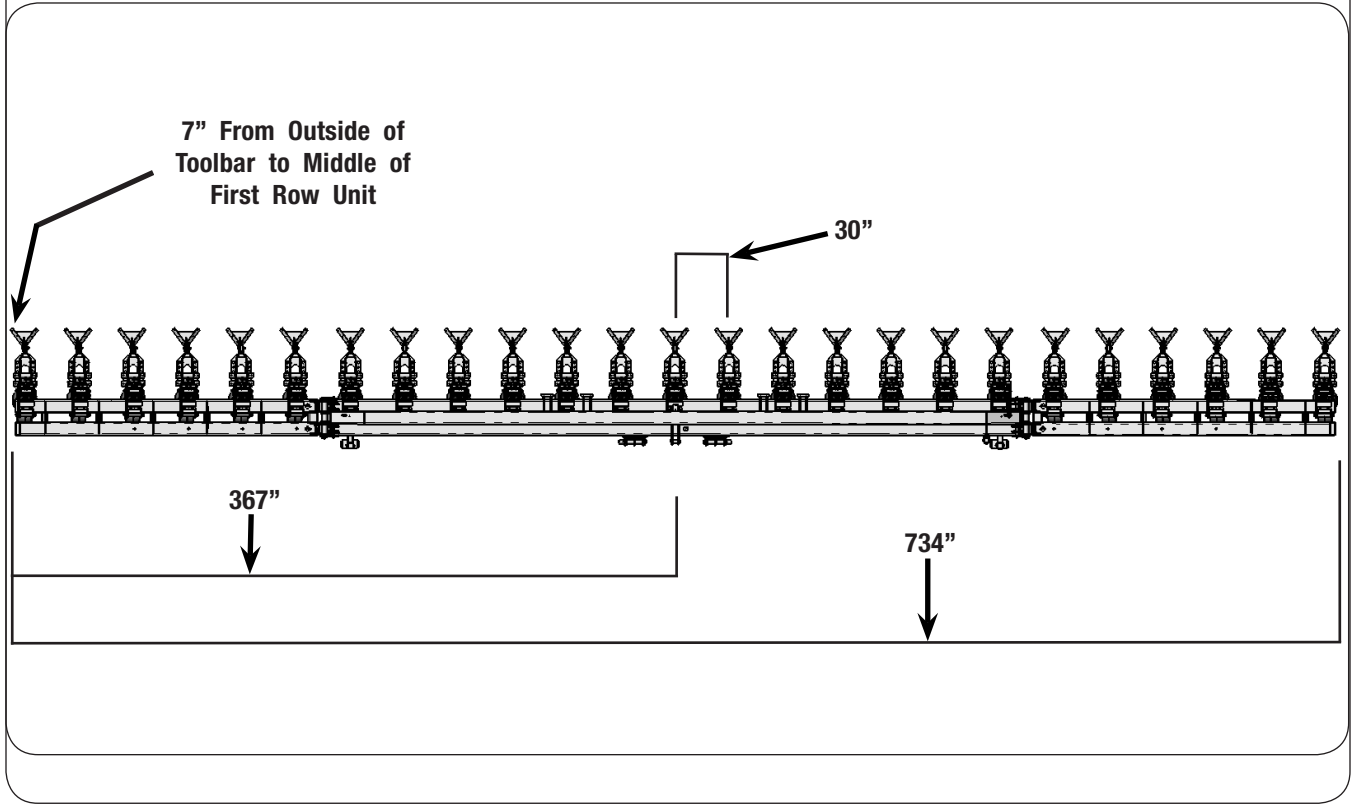


18 Row 36" Spacing Configuration



Overhead Layouts

24 Row 30" Spacing Configuration



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General Operation Information

WARNING

- READ AND UNDERSTAND SAFETY RULES BEFORE OPERATING OR SERVICING THIS MACHINE. REVIEW "SAFETY" SECTION IN THIS MANUAL IF NECESSARY.

Read this operation section thoroughly. Acquaint yourself with the adjustments required to obtain efficient and trouble-free operations.

Preparing Tractor

WARNING

- TRANSPORTING THE IMPLEMENT SIGNIFICANTLY CHANGES THE WEIGHT AND BALANCE OF YOUR TRACTOR. MAKE SURE THE TRACTOR IS PROPERLY BALLASTED.
- DO NOT EXCEED THE TRACTOR'S LIFT CAPACITY OR BALLAST RECOMMENDATIONS.

Read this operation section thoroughly. Acquaint yourself with the adjustments required to Before operating implement, refer to tractor operator's manual for information concerning safe methods of operation, hitch adjustment, tire inflation, wheel adjustments, and tractor weights.

Check tractor brakes and transport lights. Make sure they are in proper working order.

Preparing Cultivator

Perform the service checks as outlined below. Repair or replace any damaged or worn parts before operating.

Bolts And Nuts

Before going to the field, check all hardware for tightness. Recheck all bolts for tightness, after the unit has been operated for several hours.

Pins

Before going to the field, check that all pins are in place and are in good condition. Replace any worn, damaged, or missing pins.

Check that locking hardware for pins are in place and tight.

Lubrication

Lubricate unit as outlined in MAINTENANCE section.

Wing Folding Degree Adjustment

WARNING

- **MOVING WINGS CAN CAUSE SERIOUS INJURY OR DEATH. KEEP AWAY FROM FOLDING AND UNFOLDING WINGS.**

NOTE: Vertical Fold Toolbars can be folded to either 90°, 115°, 135°, or 180°. Modifications may need to be made to the current fold angle due to transportation, storage, and application issues of the particular operation

NOTE: All Vertical Fold Toolbars come standard with cylinders in the 180 degree fold position and with 180 degree fold wing rests. If the internal cylinder is moved to allow the toolbar to fold at 115 or 135 degrees adjustable wing stops (sold separately) are mandatory.

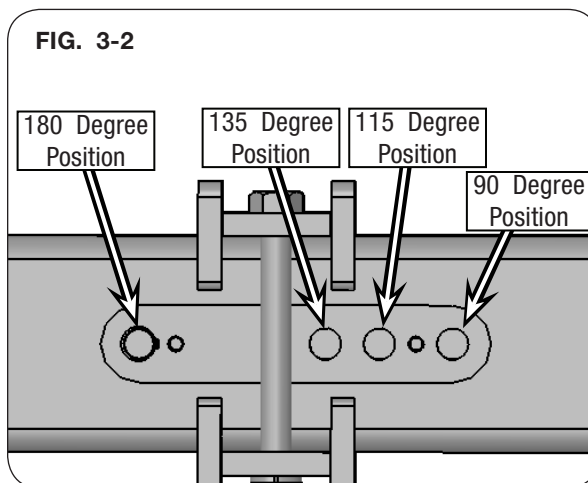
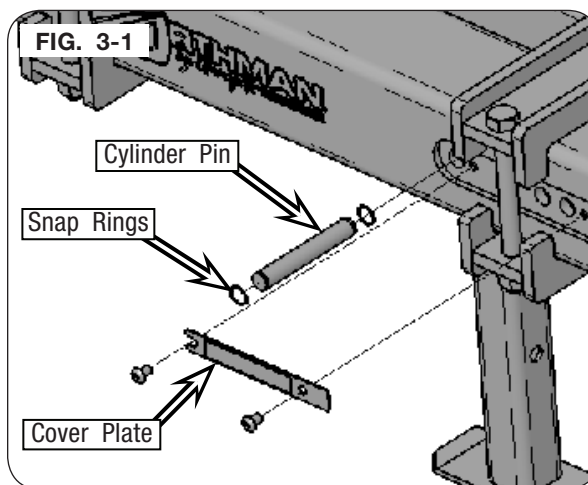
NOTE: 16 Row 30" Spacing configurations come standard with the internal cylinder in the 170 degree fold position with 170 degree wing rests.

Changing Position of Internal Cylinder

NOTE: If 90 degree fold is desired, refer to the 90 degree folding process in this section of the manual after these steps have been followed.

1. Unlock wings from rigid position by removing wing lock pin, but leave the wing in the field position. Then relieve hydraulic fluid pressure by placing the tractor SCV in the float position.
2. Remove the cover plate and snap rings from the cylinder pin, then remove the cylinder pin. (Fig. 3-1)
3. Restore hydraulic pressure and use the tractor SCV to extend or retract the hydraulic cylinder to the desired pin hole. (Extend if reducing the degree of fold; retract of increasing the degree of fold) (Fig. 3-2)
4. Once the cylinder is in the desired position, install the cylinder pin, snap rings, and cover plate. (Fig. 3-1)

NOTE: After moving the internal cylinder, refer to Adjustable Wing Rest section to make the necessary adjustment to the wing rest.



Adjustable Wing Rest

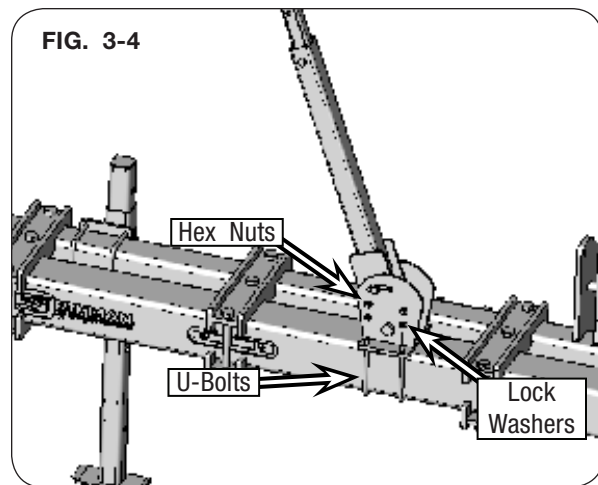
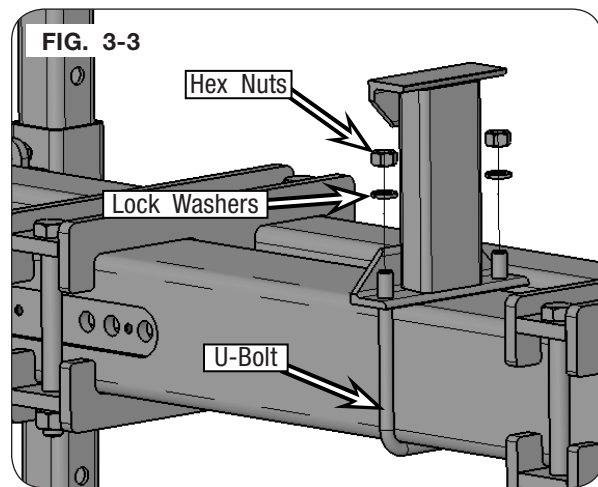
WARNING

- MOVING WINGS CAN CAUSE SERIOUS INJURY OR DEATH. KEEP AWAY FROM FOLDING AND UNFOLDING WINGS.

NOTE: Vertical Fold Tillage Toolbars are standard with 180° fold configuration. If 115° or 135° fold configuration is desired, adjustable wing rests must be ordered separately (see adjustable wing rest parts page).

To Mount Adjustable Wing Rest

1. Remove the U-bolt, hex nuts, and lock washers securing the standard 180 degree rest to the tool bar. (Fig. 3-3)
2. Remove the standard 180 degree rest, then mount the adjustable wing rest in the same position as the standard 180 degree wing rest.
3. Use the included U-bolts, hex nuts, and lock washers to secure the adjustable wing rest onto the toolbar. (Fig. 3-4)



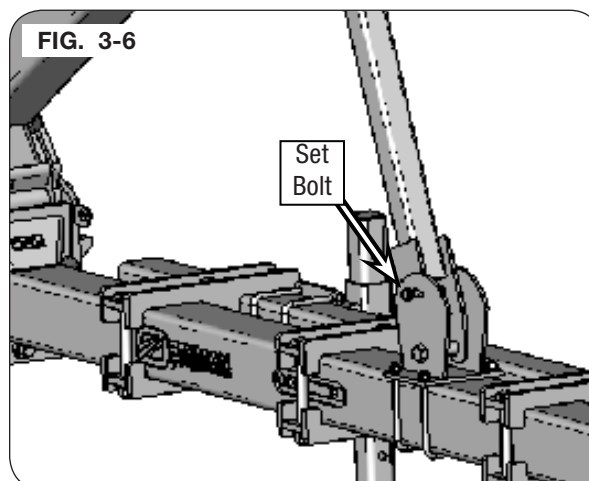
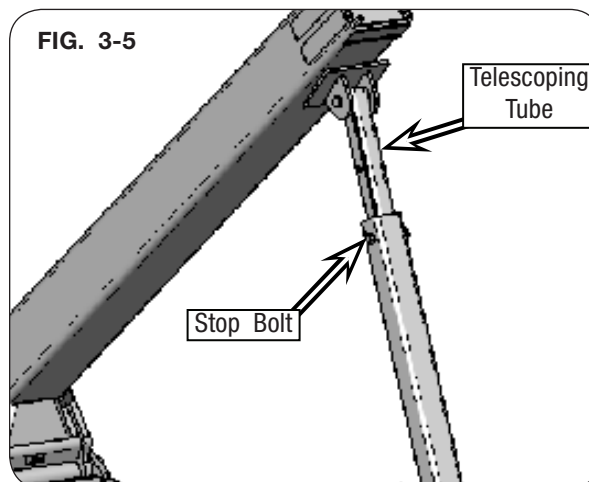
Adjustable Wing Rest

WARNING

- MOVING WINGS CAN CAUSE SERIOUS INJURY OR DEATH. KEEP AWAY FROM FOLDING AND UNFOLDING WINGS.

Adjusting The Wing Rest

1. Before adjusting, be sure the internal hydraulic cylinder is in the correct position for the desired degree of folded wing placement. If internal hydraulic cylinder must be moved, refer to the instructions for “Changing Position of Internal Cylinder” on the previous page.
2. Raise the wing from field position to the desired degree of folded wing placement (fully extend hydraulic cylinder).
3. With the wing in position, extend the telescoping tube of the wing rest to the most extended position setting hole possible and replace the stop bolt and retighten. (Fig. 3-5)
4. Adjust the wing rest arm from the base by loosening the set bolt and rotating the the wing rest arm until the wing rest plate becomes flush with a bare space on the wing and retighten.
5. Re-loosen the set bolt for the wing rest arm and slightly rotate the wing rest arm outward so that when wing is in the folded position, the weight of the wing will rest upon the wing rest and not on the internal hydraulic cylinder, then tighten the arm set bolt. (Fig. 3-6)



90 Degree Folding Procedure

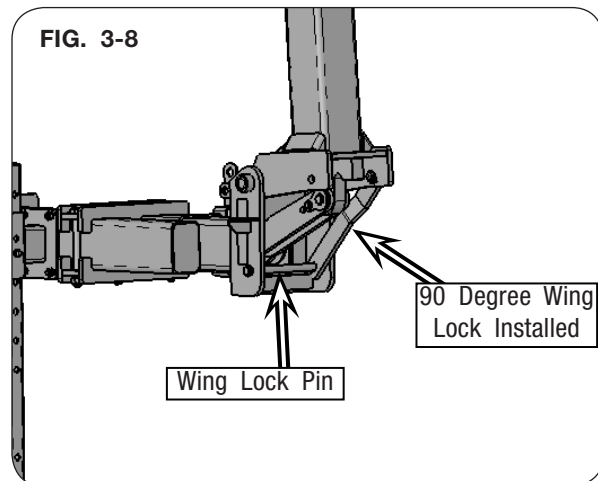
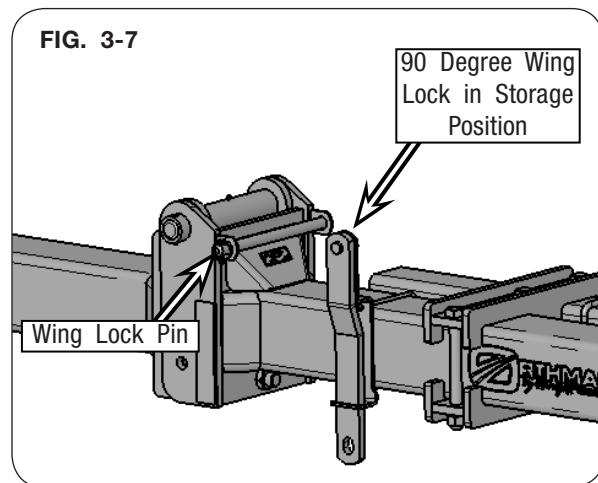
WARNING

- **MOVING WINGS CAN CAUSE SERIOUS INJURY OR DEATH. KEEP AWAY FROM FOLDING AND UNFOLDING WINGS.**

NOTE: The 90 degree fold transport lock (sold separately) is mandatory for the 90 degree fold position.

NOTE: Be sure to follow all steps of the “Changing Position of Internal Cylinder” section before proceeding.

1. Raise the wing to the 90 degree position (fully extend the internal hydraulic cylinder).
2. Remove wing lock pin from storage position and install in the wing lock position with the 90 degree transport lock in place as shown. (Fig. 3-7 and 3-8)
3. Adjust outer safety light brackets accordingly.



Cultivator Field Operation

Rigid Operation

WARNING

- **MOVING WINGS CAN CAUSE SERIOUS INJURY OR DEATH. KEEP AWAY FROM FOLDING AND UNFOLDING WINGS.**

1. With the wings completely unfolded, move the wing lock pin from the storage position and install it into the wing lock position. (Fig. 3-9 and 3-10)

NOTE: This will keep the wings from moving upward and the tool bar will not be able to fold with the wings locked.

FIG. 3-9

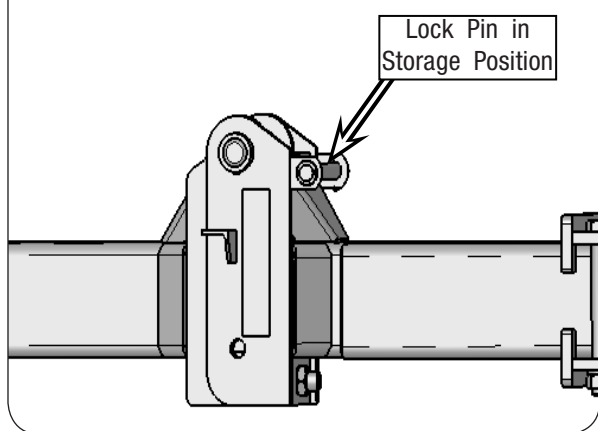
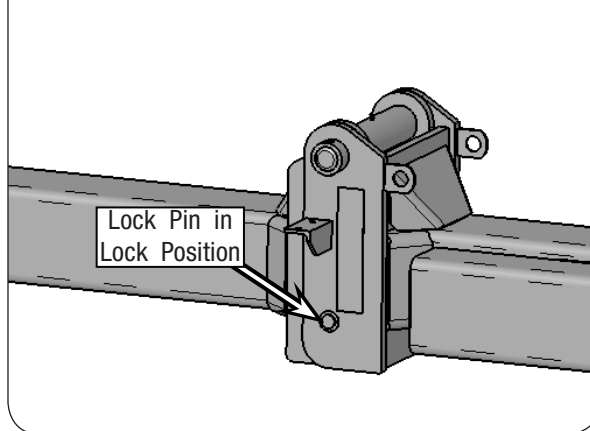


FIG. 3-10

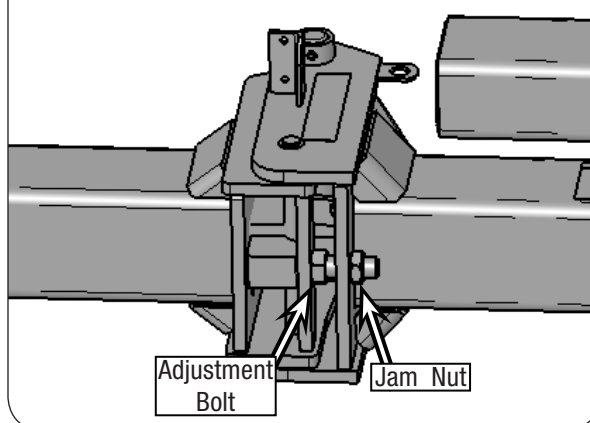


Wing Leveling

NOTE: Factory setting for wing level bolts allows no downward wing position from level. If wings become out of adjustment, these bolts can be moved. Wing leveling bolts can also be adjusted so that wings will float down below factory setting.

1. Loosen the jam nut and adjust the leveling bolt(s) to the desired position. (Fig. 3-11)
2. Tighten the jam nut to the specification listed in the maintenance section. (Fig. 3-11)

FIG. 3-11



Cultivator Field Adjustments

Row Unit Depth Adjustment

NOTE: To allow maximum vertical row unit travel, the parallel linkages should generally operate parallel with the top and bottom of the toolbar in the field position.

1. Leave the unit attached to the tractor, raise the unit, then lower the support stands.
2. Lower the unit until it is supported by the stands, then set the tractors parking brake and remove the key.
3. Remove the hand crank from its storage position. (Fig. 3-12)
4. Adjust row unit gauge wheels with the hand crank and adjustment screw assembly so that parallel linkages are parallel with the top and bottom of the toolbar in the field position. (Fig. 3-13)
5. Adjust each row unit gauge wheel to uniform depth with the hand crank. After adjustments are complete, return hand crank to storage position. (Fig. 3-12)

NOTE: It is important to set each gauge wheel to the same depth so further rearward tooling adjustments will be uniform.



FIG. 3-12

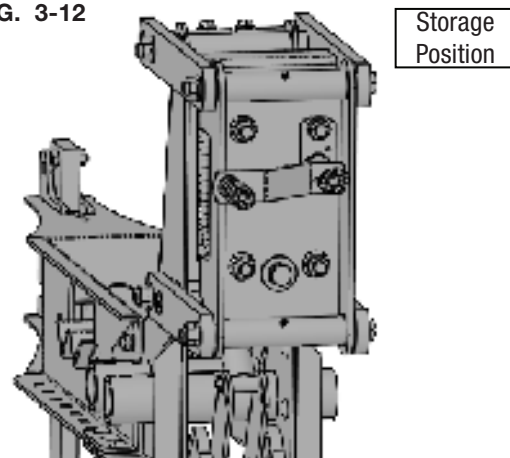
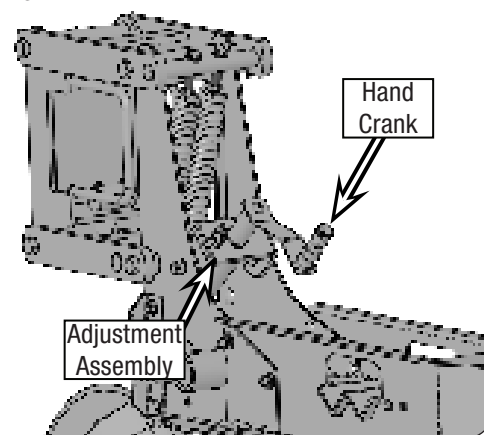


FIG. 3-13

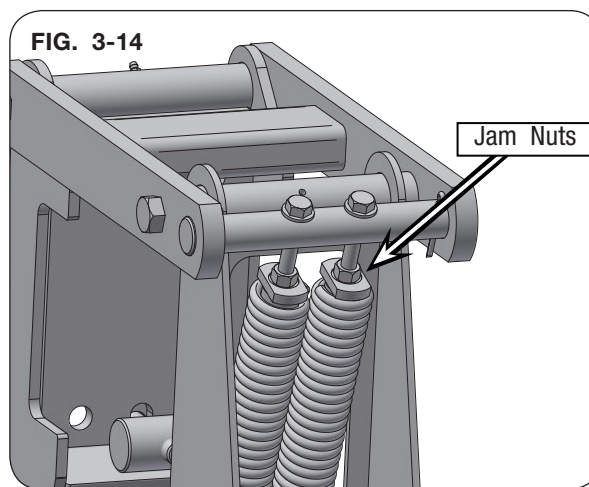


Cultivator Field Adjustments (Continued)

Down Pressure Adjustment

NOTE: Row unit down pressure springs should be adjusted to arrive at a setting where parallel linkages operate independent of the toolbar and the toolbar serves only as a towing device.

1. Leave the unit attached to the tractor, raise the unit, then lower the support stands.
2. Lower the unit until it is supported by the stands, then set the tractors parking brake and remove the key.
3. Loosen the jam nut on the spring plug. (Fig. 3-14)
4. Turn the adjustment bolt to adjust the row unit down pressure. Turning the adjustment bolt clockwise will increase down pressure, turning the adjustment bolt counter clockwise will decrease the down pressure. Both Springs should be adjusted evenly.
5. Tighten the jam nut against the spring plug. (Fig. 3-14)



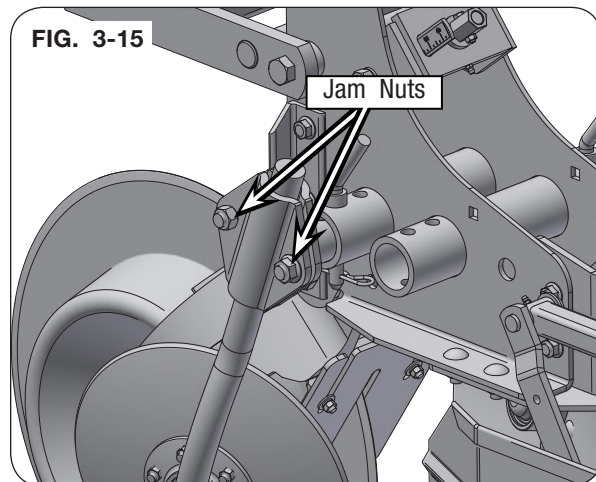
Cultivator Field Adjustments (Continued)

Barring-Off Disc Adjustment

NOTE: Barring off disc assemblies can be adjusted laterally and vertically. Depth adjustments depend on desired tillage depth and desired amount of residue flow. Width adjustments allow for variations in tillage zone to crop relationship.

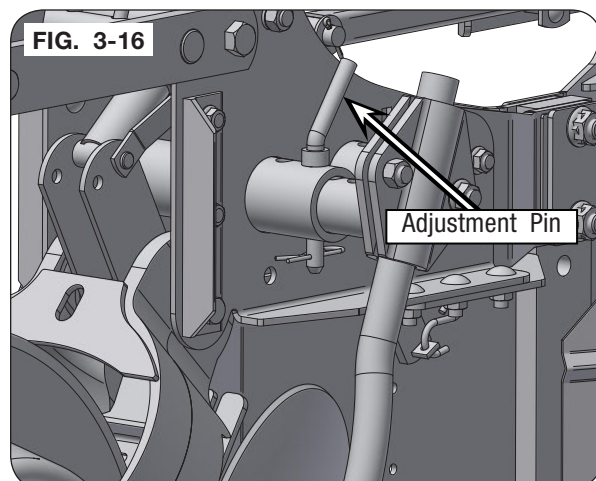
Depth Adjustment

1. Leave the unit attached to the tractor, raise the unit, then lower the support stands.
2. Lower the unit until it is supported by the stands, then set the tractors parking brake and remove the key.
3. Loosen the adjustment flange nuts, then raise or lower the shank to adjust depth as desired. (Fig. 3-15)
4. Tighten all hardware to the specification listed in the maintenance section.



Width Adjustment

1. Leave the unit attached to the tractor, raise the unit, then lower the support stands.
2. Lower the unit until it is supported by the stands, then set the tractors parking brake and remove the key.
3. Remove the hairpin from the lateral adjustment pin and the lateral adjustment pin from the cross tube. (Fig. 3-16)
4. Adjust the cross tube and barring-off disc assembly to the desired width.
5. Replace the lateral adjustment pin into the cross tube and the hairpin into the lateral adjustment pin. (Fig. 3-16)



Cultivator Field Adjustments (Continued)

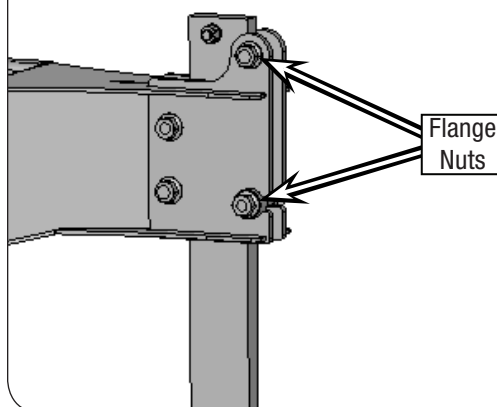
Sweep Depth Adjustment

NOTE: Sweep standard depth is adjusted by raising or lowering the rear shank relative to the tail section.

1. Leave the unit attached to the tractor, raise the unit, then lower the support stands.
2. Lower the unit until it is supported by the stands, then set the tractors parking brake and remove the key.
3. Loosen the flange nuts and move the shank up or down to achieve the desired tillage depth. (Fig. 3-17)
4. Tighten the flange nuts to the specification listed in the maintenance section.



FIG. 3-17



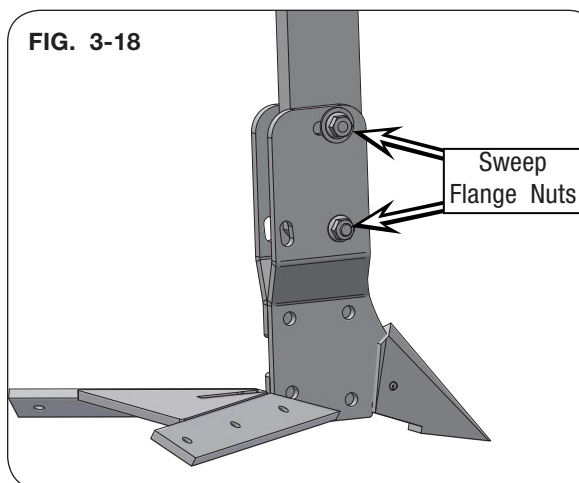
Sweep Pitch Adjustment

NOTE: Increasing sweep pitch angle provides increased soil penetration and disturbance.

1. Leave the unit attached to the tractor, raise the unit, then lower the support stands.
2. Lower the unit until it is supported by the stands, then set the tractors parking brake and remove the key.
3. Loosen the flange nuts on the pitch adjustment and pivot capscrews. (Fig. 3-18)
4. Adjust the sweep standard pitch to meet cultivation needs, then replace the flange nuts on the pitch adjustment and pivot capscrews. (Fig. 3-18)
5. Tighten all hardware to the specification listed in the maintenance section.



FIG. 3-18



Cultivator Field Adjustments (Continued)

Ridging Wing Width Adjustment

NOTE: Increasing wing width and sweep standard pitch generally provides more soil disturbance.

1. Leave the unit attached to the tractor, raise the unit, then lower the support stands.
2. Lower the unit until it is supported by the stands, then set the tractor's parking brake and remove the key.
3. Loosen the flange nuts on the width adjustment carriage bolts. (Fig. 3-19 and Fig. 3-20)
4. Adjust the wing width to the desired position.
5. Replace the flange nuts on the width adjustment carriage bolts and tighten all hardware to the specification listed in the maintenance section. (Fig. 3-25 and Fig. 3-26)

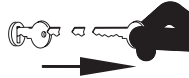


FIG. 3-19

Western Sweep
Ridging Wings

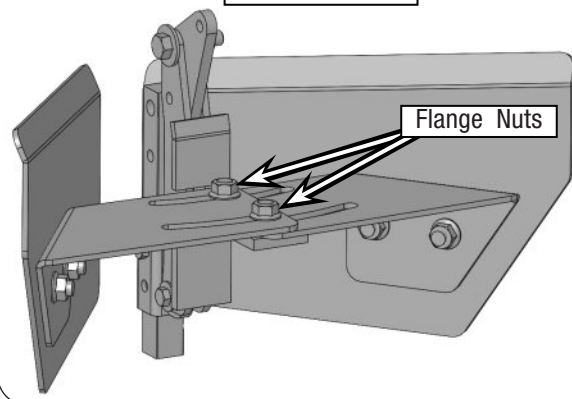
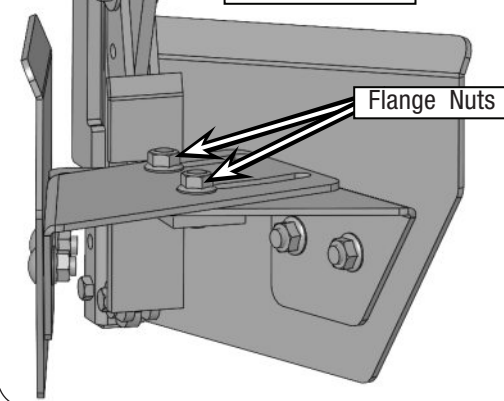


FIG. 3-20

Single Sweep
Ridging Wings



Cultivator Field Adjustments (Continued)

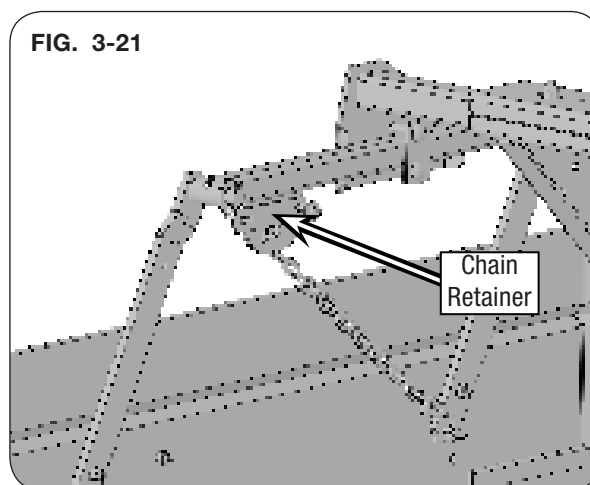
WARNING

- **FALLING OBJECTS CAN CAUSE SERIOUS INJURY OR DEATH. DO NOT WORK UNDER THE MACHINE AT ANY TIME WHILE BEING HOISTED. BE SURE ALL LIFTING DEVICES AND SUPPORTS ARE RATED FOR THE LOADS BEING HOISTED. THESE ASSEMBLY INSTRUCTIONS WILL REQUIRE SAFE LIFTING DEVICES UP TO 50 LBS. SPECIFIC LOAD RATINGS FOR INDIVIDUAL LOADS WILL BE GIVEN AT THE APPROPRIATE TIME IN THE INSTRUCTIONS.**

Open Top Fender Adjustment

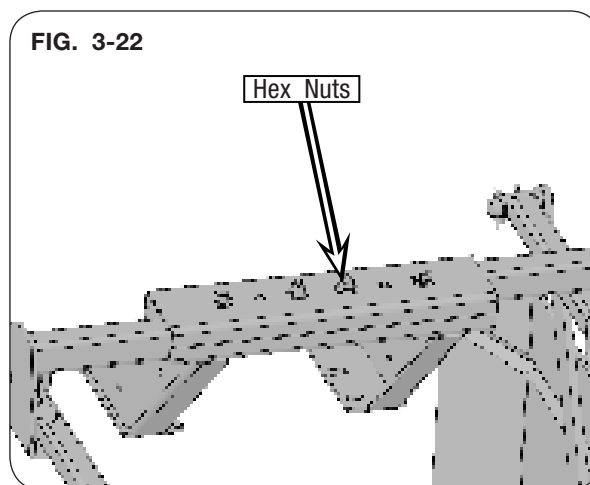
Vertical Adjustment

1. Remove the hex nut, flat washer, and spring, then remove the chain retainer. (Fig. 3-21)
2. Adjust the chain up or down to achieve desired height for the fenders.
3. Install the chain retainer, flat washer, and hex nut. (Fig. 3-21)
4. Repeat on opposite side.



Lateral Adjustment

1. Loosen the hex nuts on the upper fender assembly mount. (Fig. 3-22)
2. Move the fender assembly in or out to achieve desired position.
3. Tighten the hex nuts on the upper fender assembly mount to the specification listed in the maintenance section. (Fig. 3-22)
4. Repeat on opposite side.

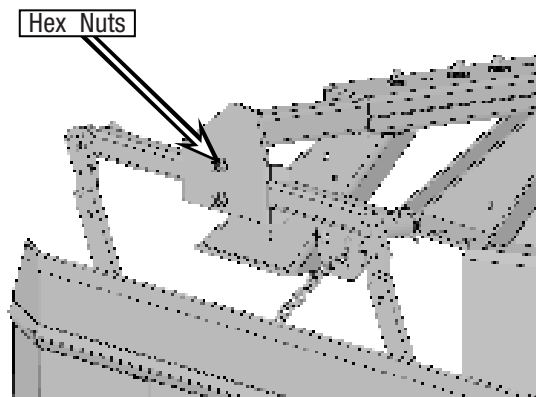


Cultivator Field Adjustments (Continued)

Fore and Aft Adjustment

1. Loosen the hex nuts on the outside of the fender mount arm. (Fig. 3-23)
2. Move the fender assembly forward or backward to achieve the desired position.
3. Tighten the hex nuts on the outside of the fender mount arm to the specification listed in the maintenance section. (Fig. 3-23)
4. Repeat on opposite side.

FIG. 3-23



Cultivator Field Adjustments (Continued)

WARNING

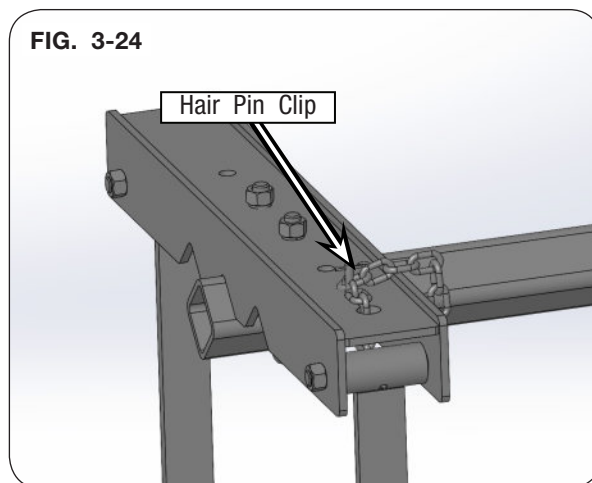
- **FALLING OBJECTS CAN CAUSE SERIOUS INJURY OR DEATH. DO NOT WORK UNDER THE MACHINE AT ANY TIME WHILE BEING HOISTED. BE SURE ALL LIFTING DEVICES AND SUPPORTS ARE RATED FOR THE LOADS BEING HOISTED. THESE ASSEMBLY INSTRUCTIONS WILL REQUIRE SAFE LIFTING DEVICES UP TO 50 LBS. SPECIFIC LOAD RATINGS FOR INDIVIDUAL LOADS WILL BE GIVEN AT THE APPROPRIATE TIME IN THE INSTRUCTIONS.**

Closed Top Fender Adjustment

Vertical Adjustment

1. Remove the hair pin clip on the top of the fender assembly upper channel. (Fig. 3-24)
2. Move chain up or down to achieve desired height for the fender assembly.
3. Install the hair pin clip on the top of the fender assembly upper channel. (Fig. 3-24)
4. Repeat on opposite side.

FIG. 3-24

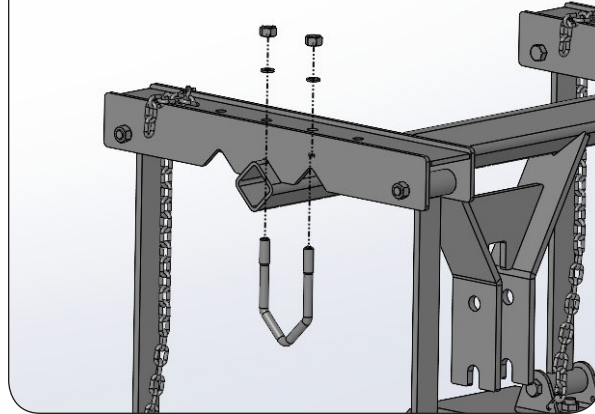


Cultivator Field Adjustments (Continued)

Lateral Adjustment

1. Remove the hex nuts and lock washers from the u-bolt on the fender assembly upper channel. (Fig. 3-25)
2. Move the fender assembly in or out to achieve the desired width.
3. Install the u-bolts, lock washers, and hex nuts onto the fender assembly upper channel. (Fig. 3-25)
4. Tighten hardware to the specification listed in the maintenance section.

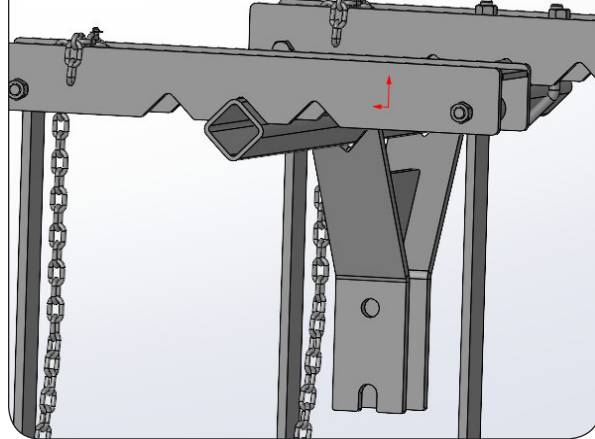
FIG. 3-25



Fore and Aft Adjustment

1. Remove the hex nuts and lock washers from the u-bolt on the fender assembly upper channel. (Fig. 3-25)
2. Move the fender assembly forward or back using the notches on the upper channel to achieve the desired position. (Fig. 3-26)
3. Install the u-bolts, lock washers, and hex nuts onto the fender assembly upper channel. (Fig. 3-25)
4. Tighten hardware to the specification listed in the maintenance section.

FIG. 3-26



Hitching to Tractor

WARNING

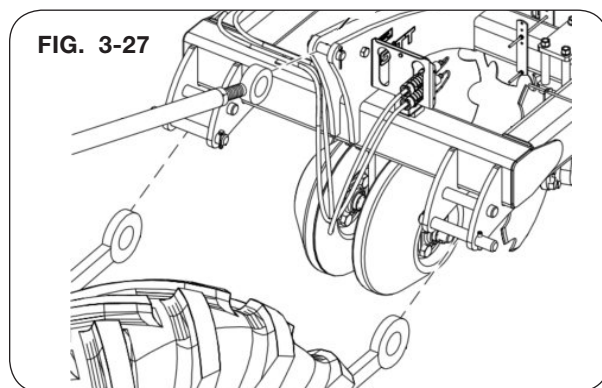
- **CRUSHING CAN CAUSE SERIOUS INJURY OR DEATH. DO NOT STAND BETWEEN TOWING VEHICLE AND IMPLEMENT WHEN HITCHING. ALWAYS ENGAGE PARKING BRAKE AND STOP ENGINE BEFORE INSERTING HITCH PINS OR SECURING LATCHES.**

3 Point Hitch Tractor Connection

1. Back up tractor to the implement hitch. Place the tractor in park, turn off the engine, and remove the key before connecting the implement. Injury or death can result from being trapped between the tractor and implement.



2. Set tractor's three-point hitch lift links. Hitch lift links should be adjusted to the operating depth dimensions indicated in the tractor operator's manual.
3. Set tractor's three-point hitch lateral float pins. Lateral float pins should be placed in the lower holes to allow machine to "float" and follow the ground surface.
4. Connect the tractor's lower three-point hitch points to the lower hitch tug pins on the implement. (Fig. 3-27)
5. Adjust the tractor's upper three-point hitch point as necessary to connect the hitch point to the upper hitch pin on the implement. (Fig. 3-27)



Hitching to Tractor (Continued)

Quick Hitch Tractor Connection

1. Back up tractor to the implement hitch. Place the tractor in park, turn off the engine, and remove the key before connecting the implement. Injury or death can result from being trapped between the tractor and implement.
2. Raise quick hitch latch handles. (Fig. 3-28)
3. Lower the rockshaft until the center link hook and quick-hitch hooks are lower than the implement hitch pins.
4. Slowly back the tractor towards the toolbar until the quick-hitch hooks are aligned with the implement hitch pins.
5. Raise the rockshaft until the center link hook and quick-hitch hooks engage with the implement hitch pins. (Fig. 3-29)
6. Push latch handles down to lock the quick-hitch to the implement.

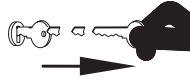


FIG. 3-28

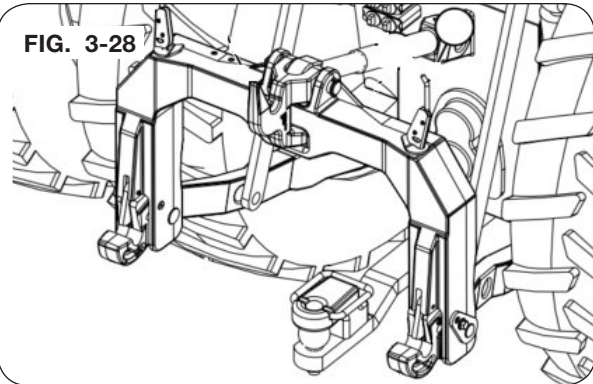
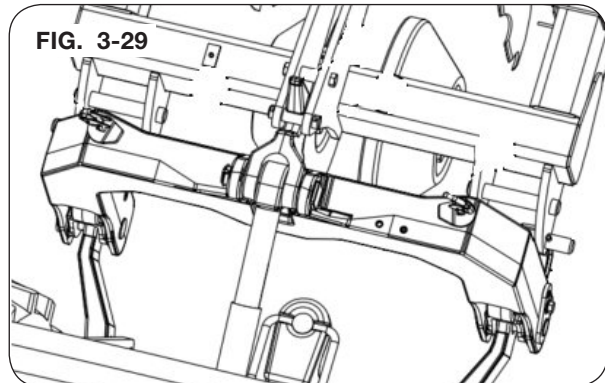


FIG. 3-29



Transport and Field Positions

⚠ WARNING

- USE TRANSPORT LIGHTS AS REQUIRED BY ALL LAWS TO ADEQUATELY WARN OPERATORS OF OTHER VEHICLES.
- REGULATE SPEED TO ROAD CONDITIONS AND MAINTAIN COMPLETE CONTROL.

Transport Position:

Regulate speed to road conditions and maintain complete control.

Be aware of obstructions above, below, and around the implement when in operation or transport.

Connect the implement to the tractor hitch.

Raise the tractor hitch to it's highest point.

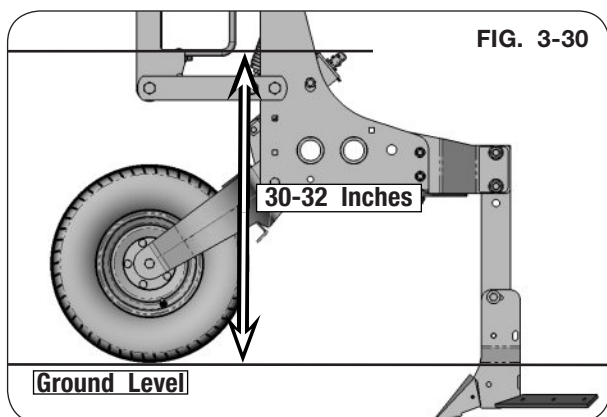
Field Position:

NOTE: When setting toolbar height, disregard row unit performance. In order for tooling options to be adjusted and work efficiently, toolbar height and orientation must be set first.

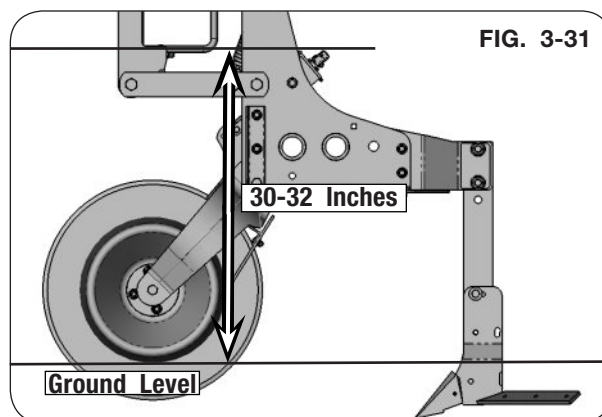
The top and bottom of the toolbar must be parallel with the ground. Adjustment of the tractors third link, lift assist wheels, and/or toolbar gauge wheels (if equipped) will allow the toolbar to run parallel to the ground.

The bottom of the toolbar should be approximately 30 to 32 inches above the ground level. Use the tractors lower hitch stop, lift assist wheels, and/or toolbar gauge wheels (if equipped) to set desired height.

With Tire Front:



With Depth Band Coultter Front:



SECTION IV

Maintenance

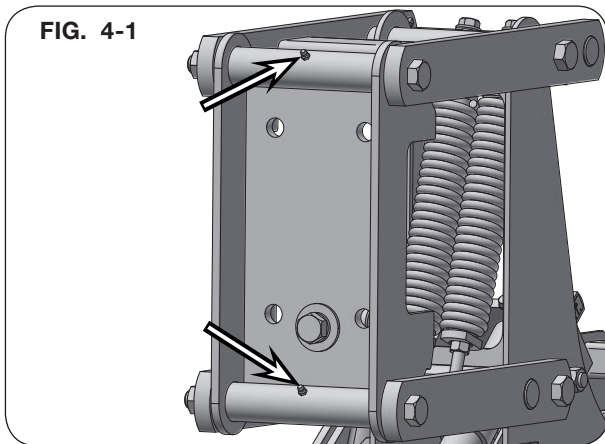
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Depth Band Coulter Front.....	4-6
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Lubrication

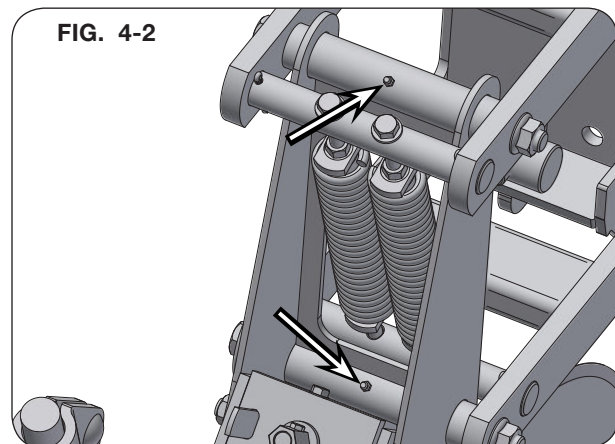
Grease all zerks on the 8315 Cultivator using a high-quality, multi-purpose grease. Follow the recommended hourly service intervals illustrated below.

Lubrication Service Intervals		
	# of Grease Points	Interval (Hours)
Parallel Linkages (Front)	2	10
Parallel Linkages (Rear)	2	10
Gauge Wheel Height Adjustment Screw	1	50
Gauge Wheel Bushing	1	50
Fender Bushings (Open Top)	4	50
Fender Bushings (Closed Top)	8	50
Wing Hinge	2	50
Wing Cylinder Hinge	6	50

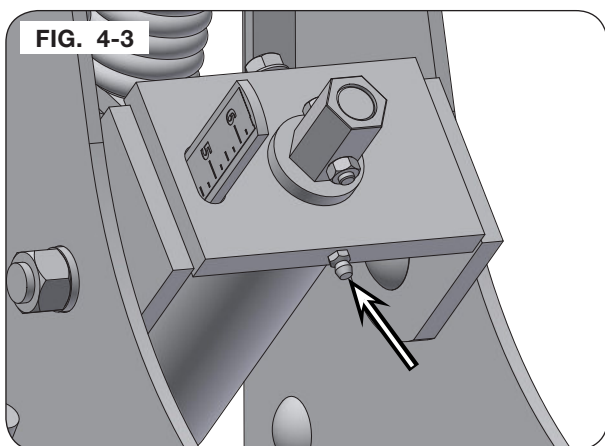
Parallel Linkages (Front)



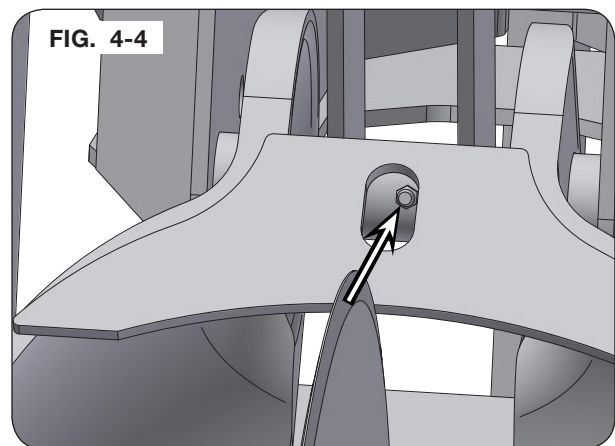
Parallel Linkages (Rear)



Gauge Wheel Height Adjustment Screw

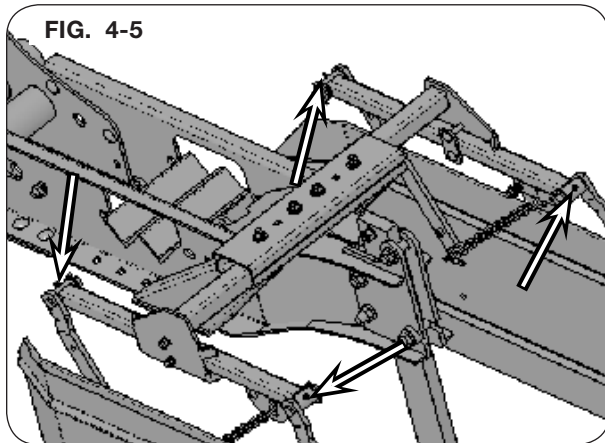


Gauge Wheel Bushing

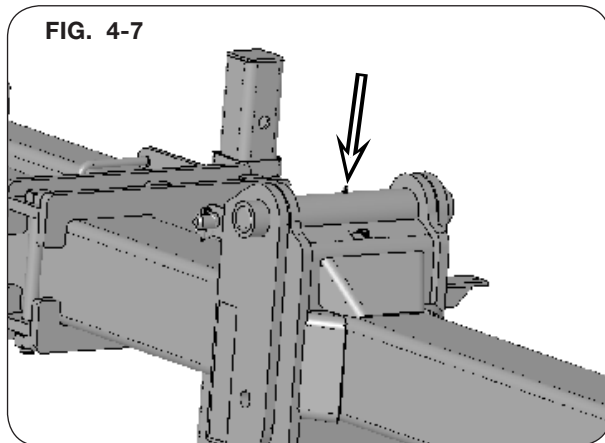


Lubrication (Continued)

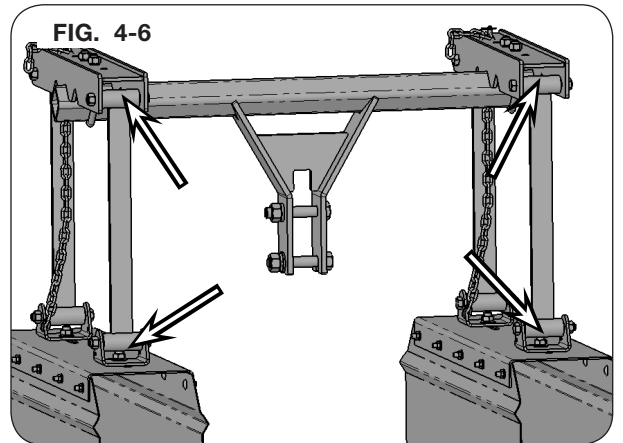
Fender Bushings (Open Top)



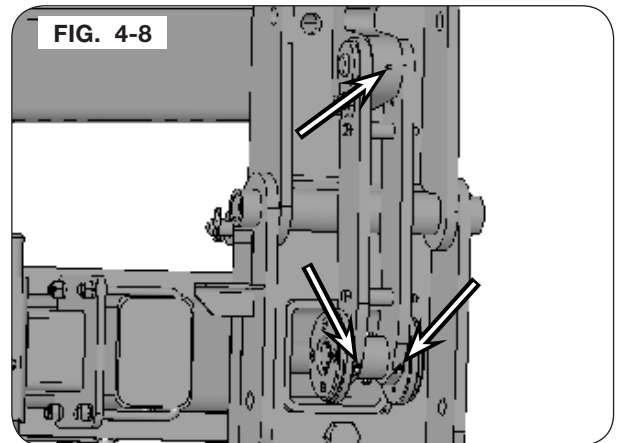
Wing Hinge



Fender Bushings (Closed Top)



Wing Cylinder Hinge



Mount and Parellel Linkage Disassembly and Assembly

WARNING

- KEEP HANDS CLEAR OF PINCH POINT AREAS.
- EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING IMPLEMENT.

1. Leave the unit attached to the tractor, raise the unit, then lower the support stands.

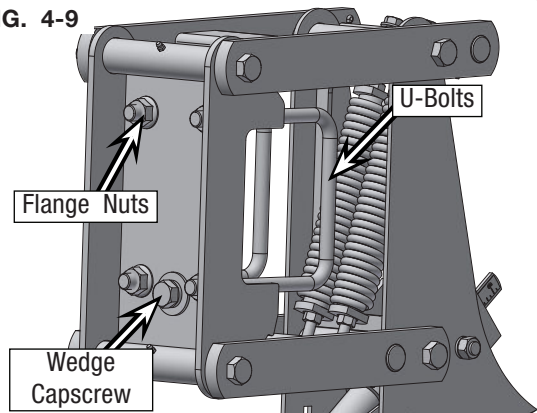
2. Lower the unit until it is supported by the stands, then set the tractors parking brake and remove the key.



3. Unhitch the implement from the tractor and support the implement with its support stands.

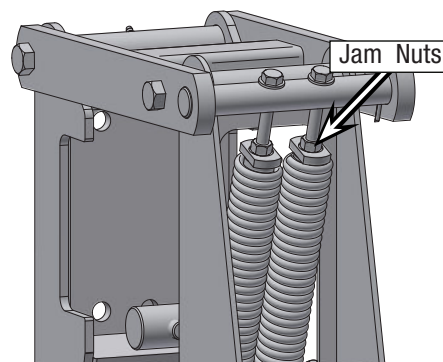
4. Using a safe lifting device rated for a minimum of 1,000 lbs, remove the row unit from the toolbar by loosening the wedge capscrew, then remove the flange nuts and u-bolts from the mounting plate. (Fig. 4-9)

FIG. 4-9



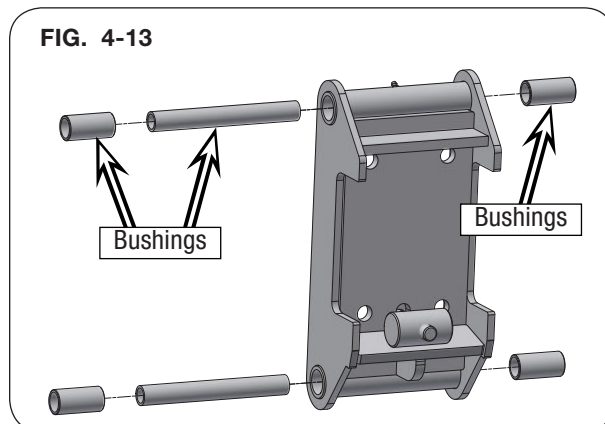
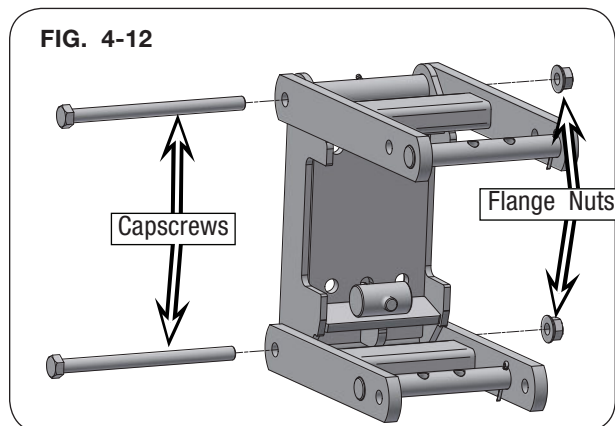
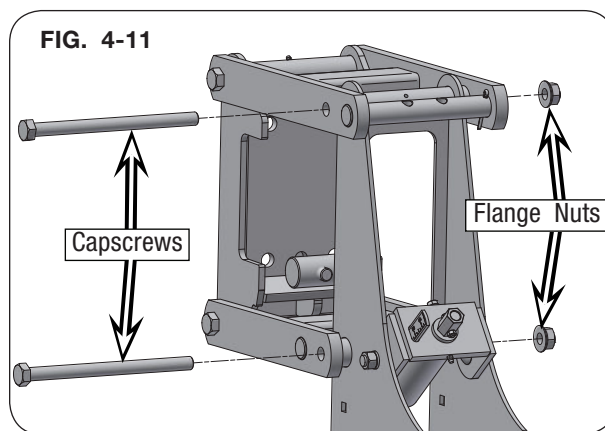
5. Loosen jam nut then remove the tension capscrew, washer, and jam nut from the tension spring. Repeat on the bottom side. (Fig. 4-10)

FIG. 4-10



Mount and Parallel Linkage Disassembly and Assembly

6. Remove the flange nuts and capscrews from the back side of the parallel linkages, then remove the row unit from the parallel linkages. (Fig. 4-11)
7. Remove the flange nuts and capscrews from the front side of the parallel linkages, then remove the mounting plate from the linkages. (Fig. 4-12)
8. Remove the bushings from the mounting plate. (Fig. 4-13)
9. Inspect parts for wear or damage and replace if necessary.
10. Install the bushings into the mounting plate. (Fig. 4-13)
11. Install the capscrews and flange nuts through the mounting plate and parallel linkages. (Fig. 4-12)
12. Install the capscrews and flange nuts through the back side of the parallel linkages and through the row unit. (Fig. 4-11)
13. Install the row unit onto the toolbar using the u-bolts and flange nuts through the mounting plate, then tighten the wedge capscrew. (Fig. 4-10)
14. Install the tension springs, jam nuts, washers, and capscrews into the row unit and adjust as needed. (Fig. 4-9)
15. Torque all hardware to the specification listed in the maintenance section.



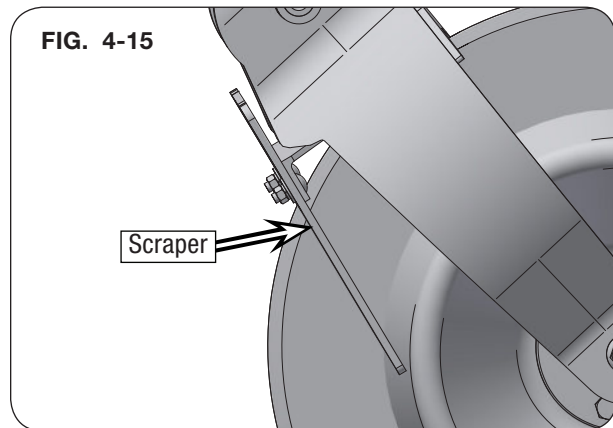
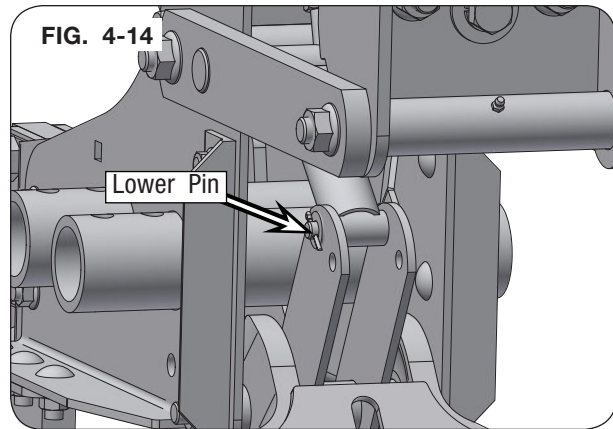
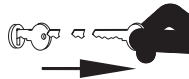
Front Wheel Unit Disassembly and Assembly

CAUTION

- SHARP EDGES ON COULTER BLADES CAN CAUSE INJURY. BE CAREFUL WHEN WORKING AROUND COULTER BLADES.

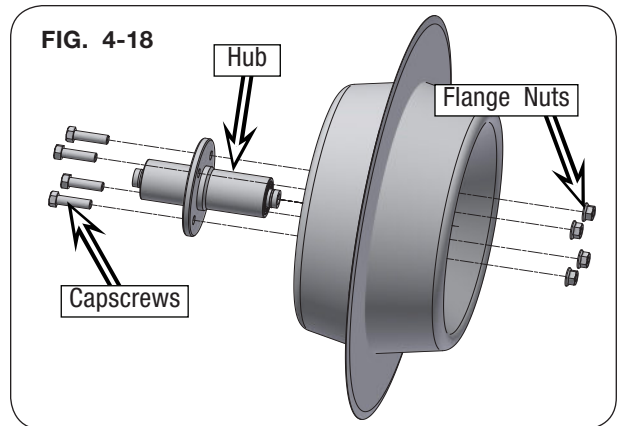
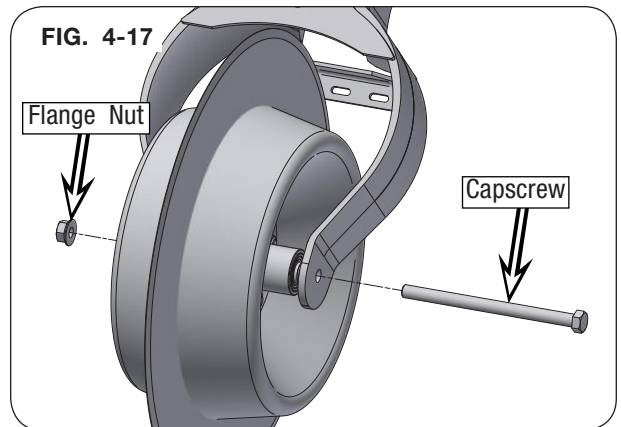
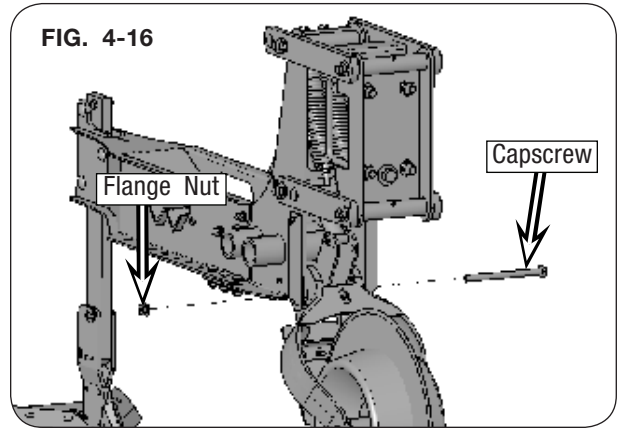
For Depth Band Coulters Front:

1. Leave the unit attached to the tractor, raise the unit, then lower the support stands.
2. Lower the unit until it is supported by the stands, then set the tractor's parking brake and remove the key.
3. Remove the cotter pin, washer, and lower pin from the height adjustment assembly. (Fig. 4-14)
4. Remove the carriage bolts, washers, and nut from the scraper, then remove the scraper from the wheel assembly. (Fig. 4-15)



Front Wheel Unit Disassembly and Assembly (Continued)

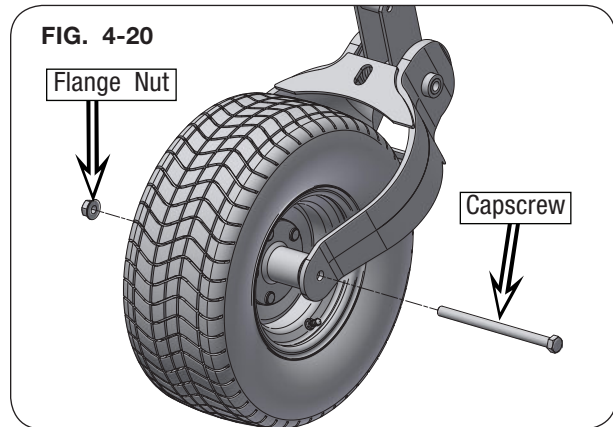
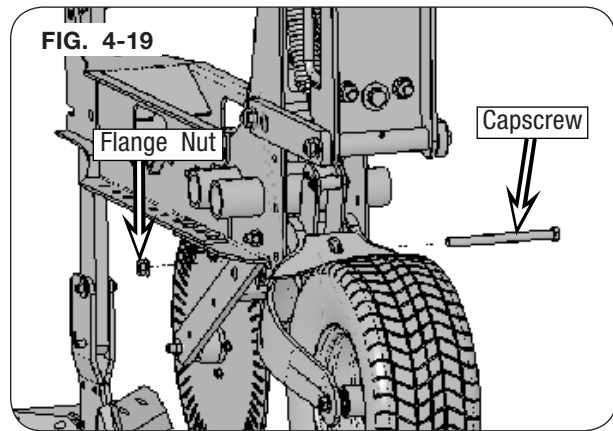
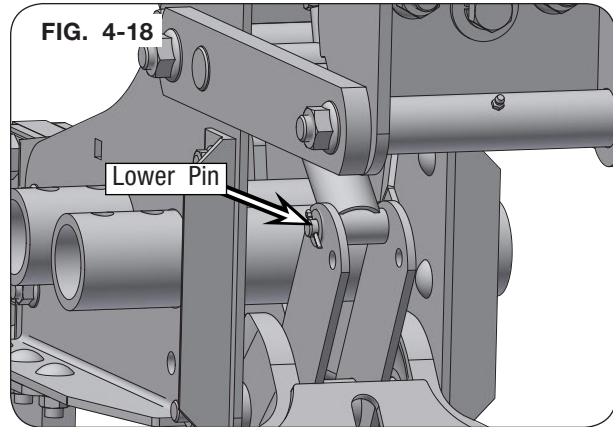
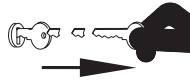
5. Remove the capscrew and flange nut, then remove the coultter assembly from the row unit. (Fig. 4-16)
6. Remove capscrew and flange nut, then remove the coultter and hub from the forks. (Fig. 4-17)
7. Remove the capscrews and flange nuts to remove the hub from the coultter. (Fig. 4-18)
8. Inspect parts for wear or damage and replace if necessary.
9. Install the hub into the coultter, then install the capscrews and flange nuts. (Fig. 4-18)
10. Install the coultter and hub into the fork, then install the capscrew and flange nut. (Fig. 4-17)
11. Install the scraper, carriage bolts, washers, and nuts. (Fig. 4-16)
12. Install the coultter assembly onto the row unit, then the capscrew and flange nut. (Fig. 4-15)
13. Install the pin, washer, and cotter pin into the height adjuster assembly. (Fig. 4-14)
14. Torque all hardware to the specification listed in the maintenance section.



Front Wheel Unit Disassembly and Assembly (Continued)

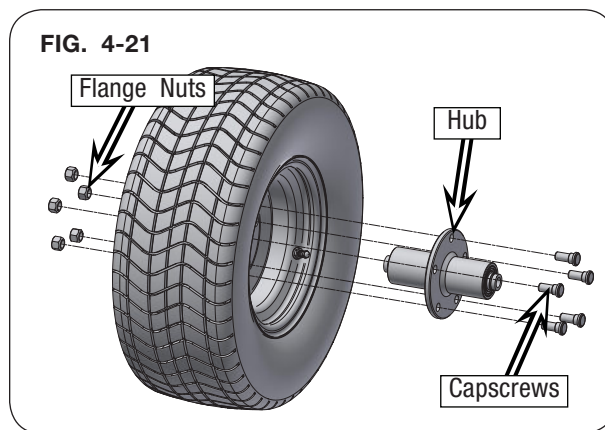
For Single Tire Front:

1. Leave the unit attached to the tractor, raise the unit, then lower the support stands to the ground.
2. Lower the unit until it is supported by the stands, then set the tractors parking brake and remove the key.
3. Remove the cotter pin, washer, and lower pin from the height adjustment assembly. (Fig. 4-19)
4. Remove the capscrew and flange nut, then remove the tire assembly from the row unit. (Fig. 4-20)
5. Remove the capscrew and flange nut, then remove the wheel and hub from the forks. (Fig. 4-21)



Front Wheel Unit Disassembly and Assembly (Continued)

6. Remove the hex nuts from the tire assembly, then remove the hub assembly from the tire.
7. Inspect parts for wear or damage and replace if necessary.
8. Install the hub assembly into the tire using the hex nuts and capscrews. (Fig. 4-21)
9. Install the tire assembly into the forks using the capscrew and flange nut, then install the tire assembly into the row unit using the capscrew and flange nut. (Fig. 4-20 and 4-19)
10. Install the pin, washer, and cotter pin into the height adjuster assembly. (Fig. 4-18)
11. Torque all hardware to the specification listed in the maintenance section.

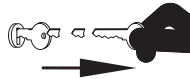


Barring-Off Disc Unit Disassembly and Assembly

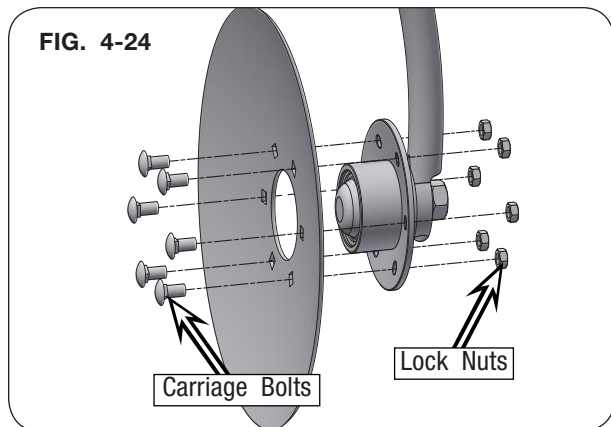
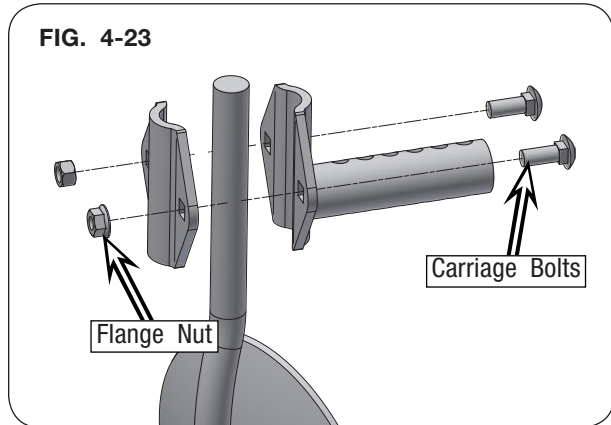
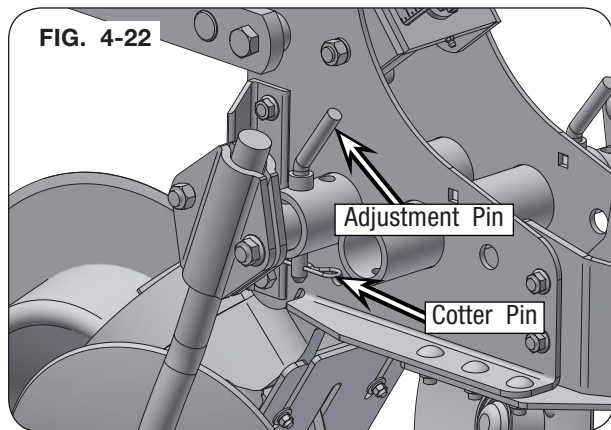
CAUTION

- SHARP EDGES ON COULTER BLADES CAN CAUSE INJURY. BE CAREFUL WHEN WORKING AROUND COULTER BLADES.

1. Leave the unit attached to the tractor, raise the unit, then lower the support stands to the ground.
2. Lower the unit until it is supported by the stands, then set the tractors parking brake and remove the key.

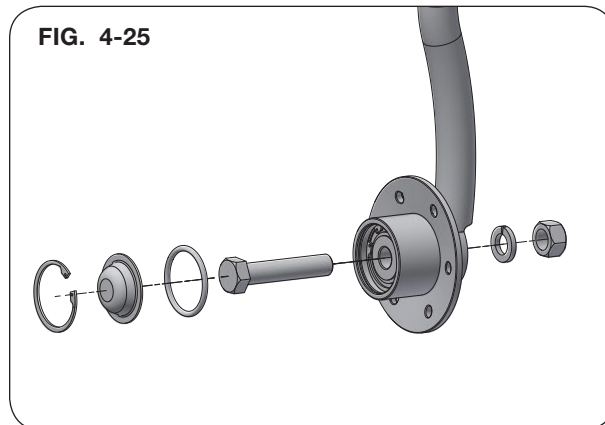


3. Remove the cotter pin, adjustment pin, and barring-off disc assembly from the row unit. (Fig. 4-22)
4. Remove the carriage bolts, flange nuts, and lock nut from the assembly, then remove the mounting rod and plate. (Fig. 4-23)
5. Remove the carriage bolts, lock nuts, and disc from the hub assembly. (Fig. 4-24)



Barring-Off Disc Unit Disassembly and Assembly (Continued)

6. Remove the snap ring, dust cover, and o-ring. Remove the capscrew, hex nut and lock washer from the hub assembly. (Fig. 4-25)
7. Remove the hub and washers from the shank.
8. Inspect parts for wear or damage and replace if necessary.
9. Install the hub and washers onto the shank using the capscrew, lock washer, and hex nut. (Fig. 4-25)
10. Install the o-ring, dust cap, and snap ring. (Fig. 4-25)
11. Install the disc onto the hub using the carriage bolts and lock nuts. (Fig. 4-24)
12. Install the mounting rod and mounting plate with the carriage bolts, flange nut and lock nut. (Fig. 4-23)
13. Install the barring-off disc assembly onto the row unit using the adjustment pin and cotter pin. (Fig. 4-22)
14. Torque all hardware to the specification listed in the maintenance section.



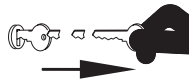
Tillage Shank Disassembly and Assembly

⚠ WARNING

- KEEP HANDS CLEAR OF PINCH POINT AREAS.
- EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING IMPLEMENT.
- CRUSH HAZARD - BE SURE SHANK IS SUPPORTED BEFORE REMOVING TOGGLE ASSEMBLY. REMOVE ALL SHANK ATTACHMENTS BEFORE PROCEEDING.

1. Leave the unit attached to the tractor, raise the unit, then lower the support stands to the ground.

2. Lower the unit until it is supported by the stands, then set the tractors parking brake and remove the key.



1. Remove the capscrews and flange nuts that mount the tillage shank to the row unit. (Fig. 4-26)

2. Remove the shank from the row unit, then remove the capscrews, flat washers, and flange nuts that mount the sweep onto the tillage shank. (Fig. 4-27)

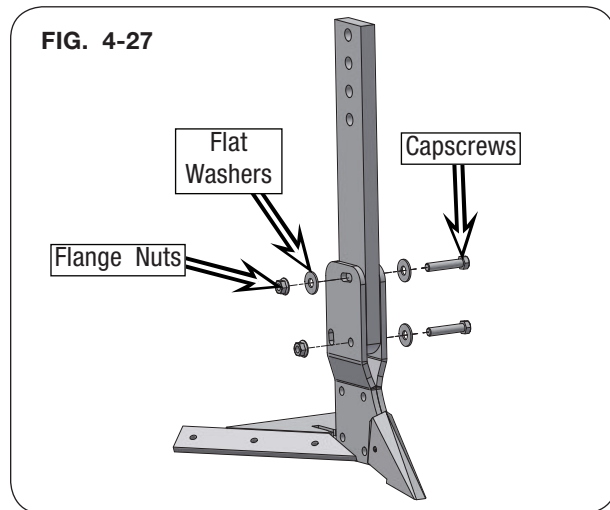
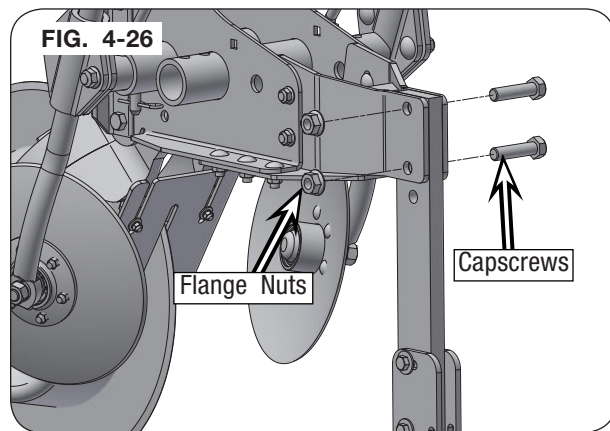
3. Remove the sweep from the tillage shank, then inspect parts for wear or damage and replace if necessary.

4. Inspect parts for wear or damage and replace if necessary.

5. Install the sweep onto the tillage shank using the capscrews, washers, and flange nuts. (Fig. 4-27)

6. Install the tillage shank onto the row unit, then install the capscrews and flange nuts through the tillage shank. (Fig. 4-26)

7. Torque all hardware to the specification listed in the maintenance section.



Depth Adjustment Crank Disassembly and Assembly

WARNING

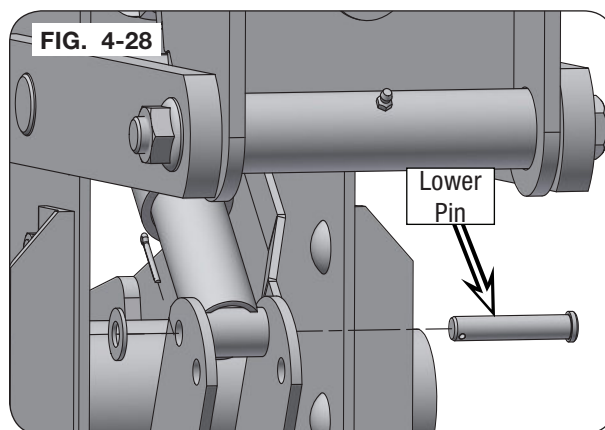
- KEEP HANDS CLEAR OF PINCH POINT AREAS.
- EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING IMPLEMENT.

1. Leave the unit attached to the tractor, raise the unit, then lower the support stands to the ground.

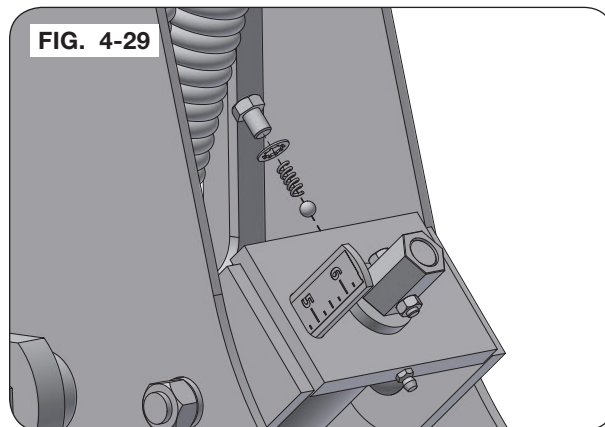
2. Lower the unit until it is supported by the stands, then set the tractors parking brake and remove the key.



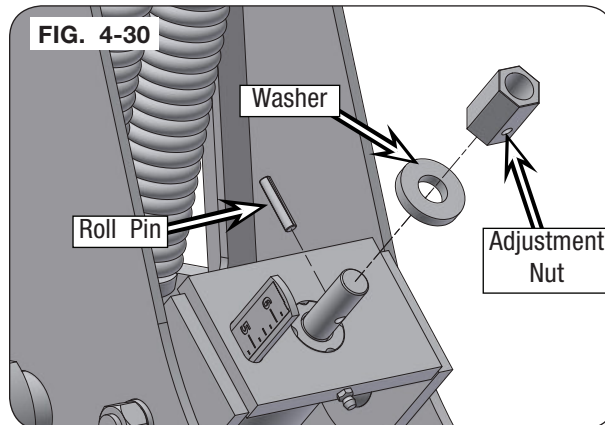
3. Remove the cotter pin, washer and lower pin from the bottom side of the depth adjustment assembly. (Fig. 4-28)



4. Remove the capscrew, lock washer, spring, and detent ball. (Fig. 4-29)



5. Remove the roll pin, adjustment nut, and washer, then remove the depth adjustment assembly from the row unit. (Fig. 4-30)



6. Inspect parts for wear or damage and replace if necessary.

7. Install the depth adjustment assembly into the row unit, then install the washer, adjustment nut, and roll pin. (Fig. 4-30)

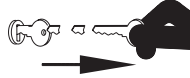
8. Install the detent ball, spring, washer, and capscrew. (Fig. 4-29)

9. Install the pin, washer, and cotter pin into the lower side of the depth adjustment assembly. (Fig. 4-28)

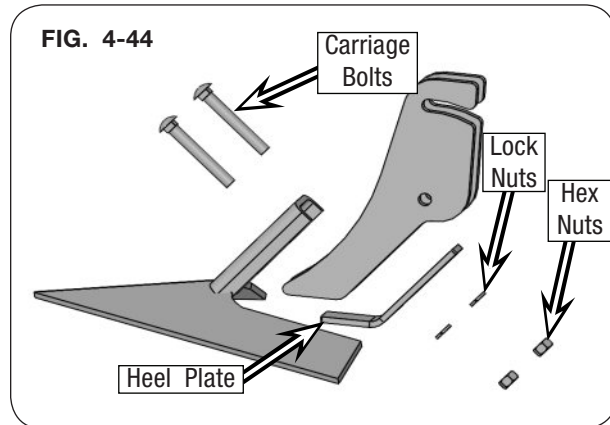
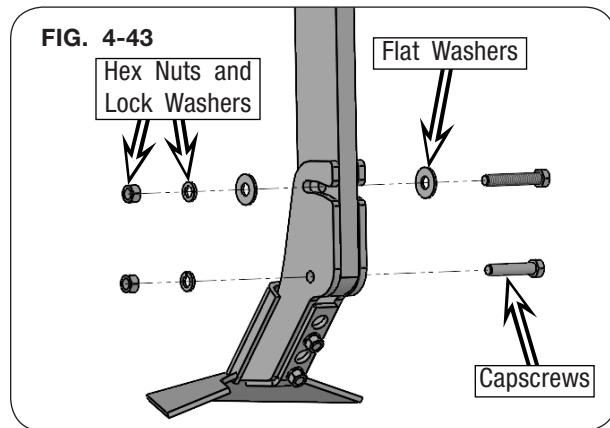
10. Torque all hardware to the specification listed in the maintenance section.

Single Sweep Disassembly and Assembly

1. Leave the unit attached to the tractor, raise the unit, then lower the support stands to the ground.
2. Lower the unit until it is supported by the stands, then set the tractors parking brake and remove the key.



3. Remove the capscrews, flat washers, lock washers, and hex nuts from the sweep, then remove the sweep from the shank. (Fig. 4-43)
4. Remove the carriage bolts, lock washers and hex nuts from the blade, then remove the blade and heel plate from the sweep. (Fig. 4-44)
5. Inspect parts for wear or damage and replace if necessary.
6. Install the blade and heel plate onto the sweep with the carriage bolts, lock washers, and hex nuts. (Fig. 4-44)
7. Install the sweep onto the shank using the capscrews, washers, lock washers, and flange nuts. (Fig. 4-43)
8. Torque all hardware to the specification listed in the maintenance section.



Single Sweep Ridging Wing Disassembly and Assembly

1. Leave the unit attached to the tractor, raise the unit, then lower the support stands to the ground.
2. Lower the unit until it is supported by the stands, then set the tractors parking brake and remove the key.
3. Remove the carriage bolts, hex nuts, and lock washers then remove the ridging wing assembly from the tillage shank. (Fig. 4-33)
4. Remove the carriage bolts and flange nuts then remove the ridging wings and wing spreaders. (Fig. 4-34 and 4-35)



FIG. 4-33

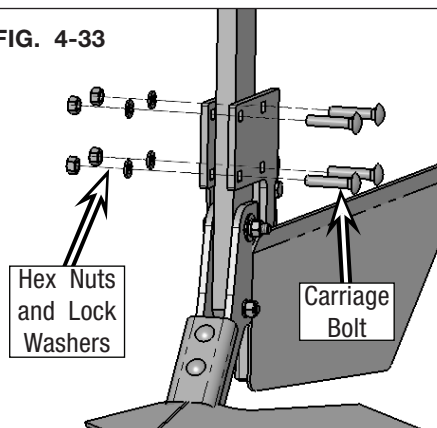


FIG. 4-34

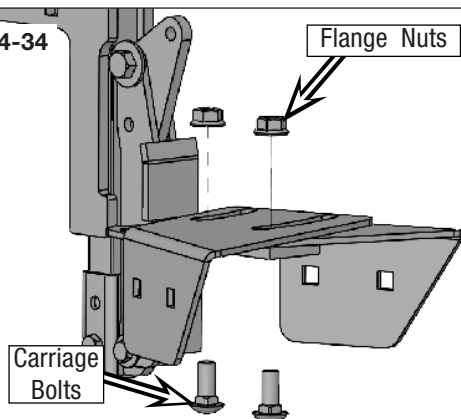
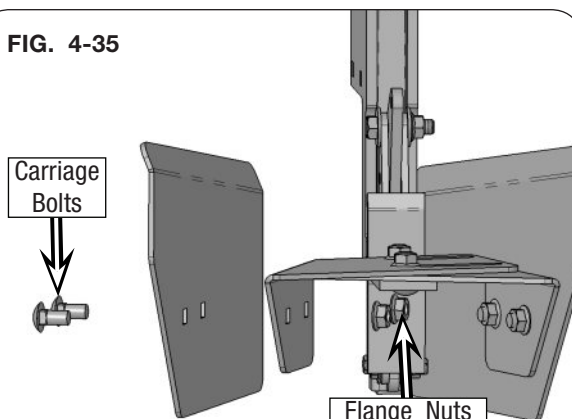


FIG. 4-35



Single Sweep Ridging Wing Disassembly and Assembly

5. Remove the hardware for the ridging wing mount adjuster, then remove the adjuster from the assembly. (Fig. 4-36)
6. Remove the capscrew, flat washers, lock washers, and hex nut from the center adjuster, then remove the adjuster from the assembly. (Fig. 4-37)
7. Inspect parts for wear or damage and replace if necessary.
8. Install the center adjuster, mount adjuster and hardware onto the ridging wing assembly. (Fig. 4-37 and 4-36)
9. Install the ridging wing spreaders onto the assembly using the carriage bolts and flange nuts. (Fig. 4-34 and 4-35)
10. Install the ridging wings onto the assembly with the carriage bolts and flange nuts. (Fig. 4-33)
11. Install the ridging wing assembly onto the tillage shank with the carriage bolts and flange nuts.

FIG. 4-36

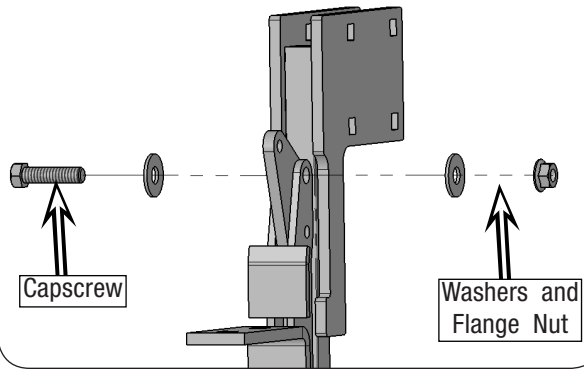
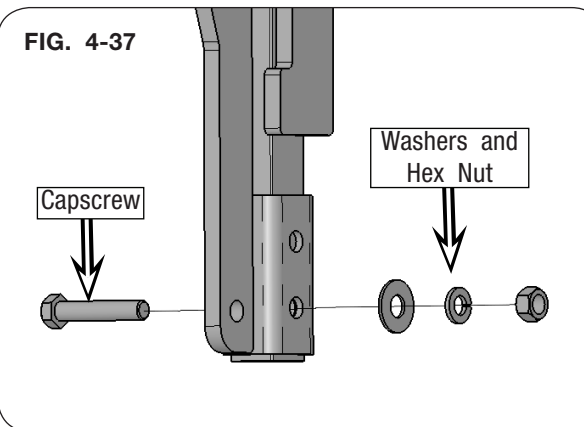

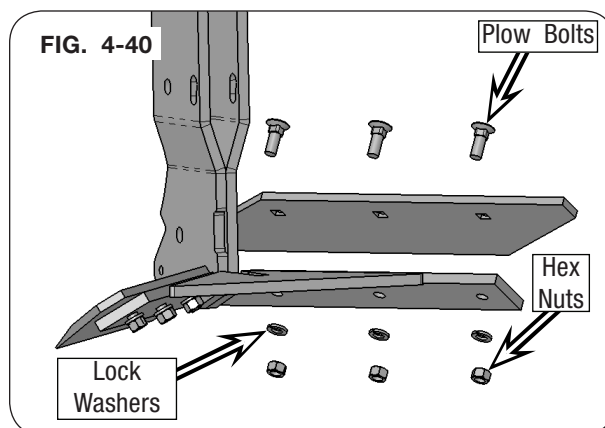
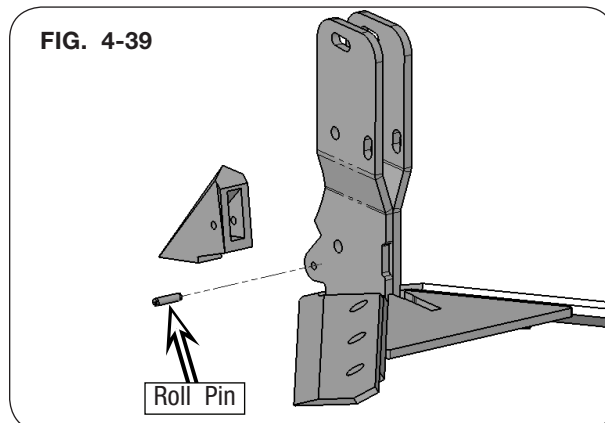
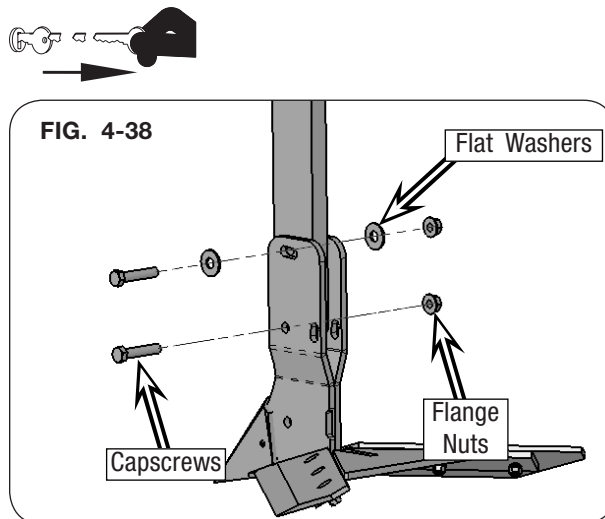


FIG. 4-37



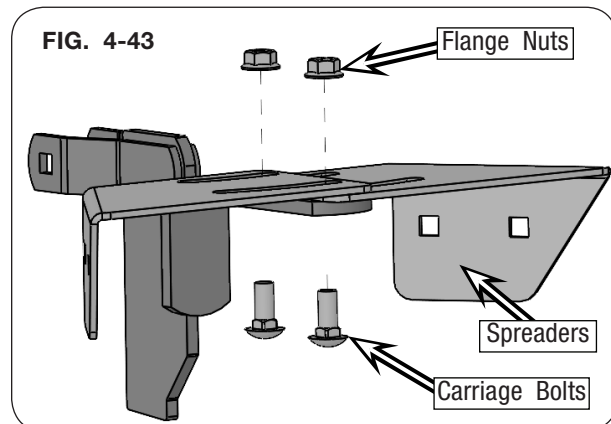
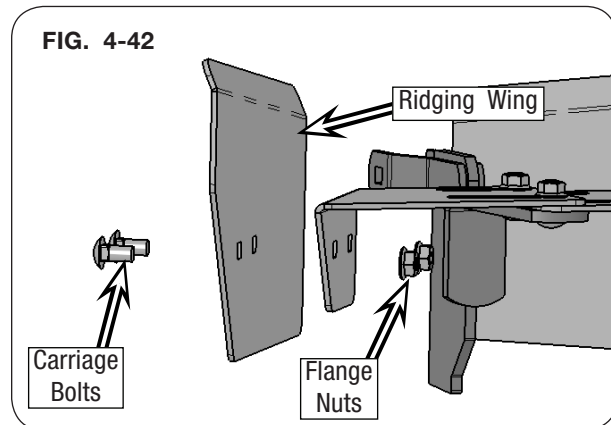
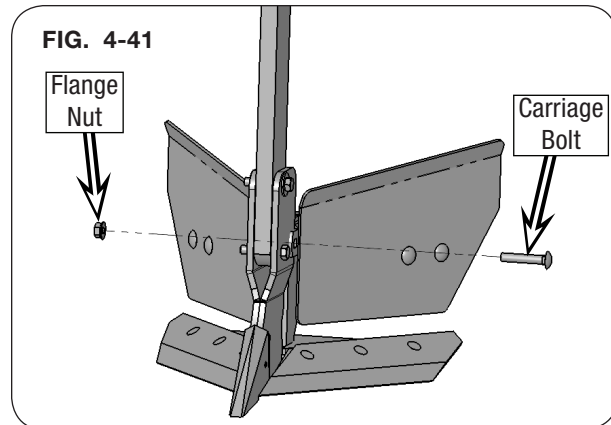
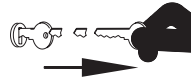
Western Sweep Disassembly and Assembly

1. Leave the unit attached to the tractor, raise the unit, then lower the support stands to the ground.
2. Lower the unit until it is supported by the stands, then set the tractors parking brake and remove the key. 
3. Remove the capscrews, flat washers, and flange nuts from the top of the sweep, then remove the sweep from the shank. (Fig. 4-38)
4. Remove the roll pin from the point of the sweep, then remove the point. (Fig. 4-39)
5. Remove the plow bolts, lock washers, and hex nuts from the blades, then remove the blades from the sweep. (Fig. 4-40)
6. Inspect parts for wear or damage and replace if necessary.
7. Install the blades, plow bolts, lock washers and hex nuts onto the sweep. (Fig. 4-40)
8. Install the point and the roll pin on to the sweep, then install the sweep onto the shank using the capscrews, flat washers, and flange nuts. (Fig. 4-39 and Fig. 4-38)
9. Torque all hardware to the specification listed in the maintenance section.



Western Sweep Ridging Wing Disassembly and Assembly

1. Leave the unit attached to the tractor, raise the unit, then lower the support stands to the ground.
2. Lower the unit until it is supported by the stands, then set the tractors parking brake and remove the key.
3. Remove the carriage bolt and flange nut that secure the ridging wings to the sweep. (Fig. 4-41)
4. Remove the carriage bolts and flange nuts then remove the wings from the ridging wing assembly. (Fig. 4-42)
5. Remove the carriage bolts and flange nuts, then remove the ridging wing spreaders from the assembly. (Fig. 4-43)
6. Inspect parts for wear or damage and replace if necessary.
7. Install the ridging wing spreaders and wings with the carriage bolts and flange nuts.(Fig. 4-43 and 4-42)
8. Install the ridging wing assmebly onto the sweep with the carriage bolt and flange nut. (Fig. 4-41)
9. Torque all hardware to the specification listed in the maintenance section.



Fender Unit Disassembly and Assembly

WARNING

- KEEP HANDS CLEAR OF PINCH POINT AREAS.
- EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING IMPLEMENT.

For Open Top Fenders:

1. Leave the unit attached to the tractor, raise the unit, then lower the support stands to the ground.

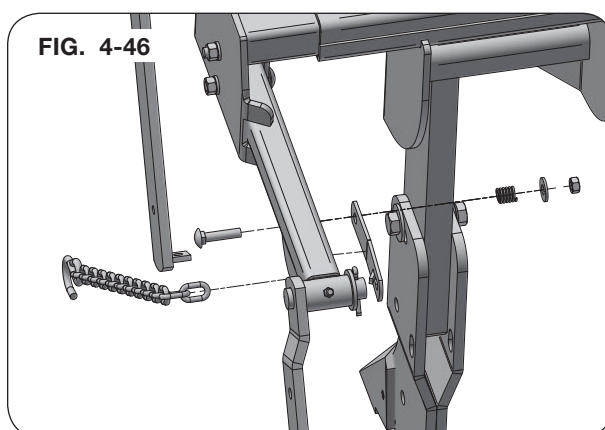
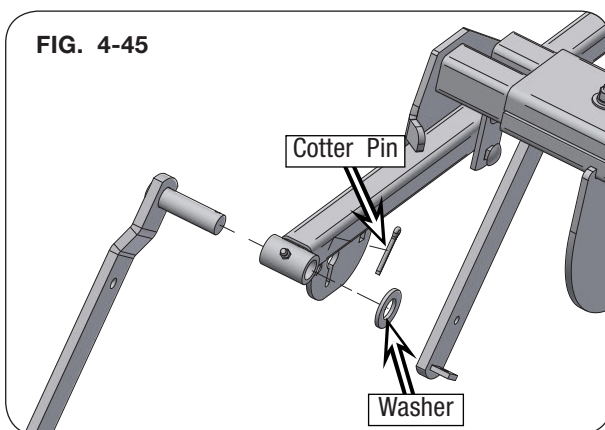
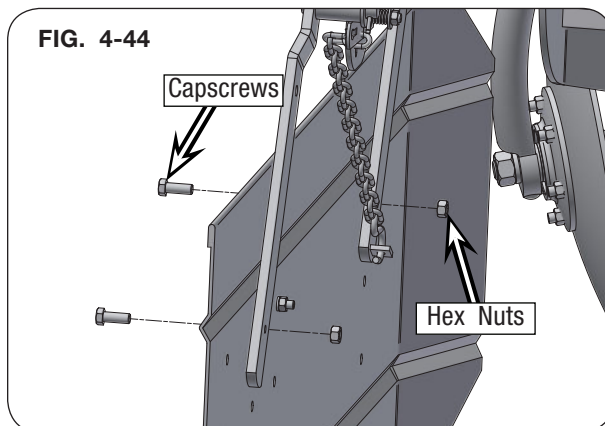
2. Lower the unit until it is supported by the stands, then set the tractors parking brake and remove the key.



3. Remove the capscrews and hex nuts, then remove the fender panels from the mount arms. (Fig. 4-44)

4. Remove the capscrew, hex nut, washer, spring and chain retainer, then remove the chain from the fender mount arms. (Fig. 4-45)

5. Remove the cotter pin, washer, and fender mount arm from the assembly. (Fig. 4-46)



Fender Unit Disassembly and Assembly (Continued)

6. Remove the carriage bolts, strap, lock washers, and hex nuts from the upper mount arm. Remove the upper mount arm from the cross bar. (Fig. 4-47)
7. Remove the hex nuts, lock washers, flat washer and carriage bolts from the cross bar brackets. (Fig. 4-48)
8. Remove the cross bars from the fender assembly mount.
9. Remove the capscrews and flange nuts, then remove the fender assembly mount from the row unit. (Fig. 4-49)
10. Inspect parts for wear or damage and replace if necessary.
11. Install the fender assembly mount onto the row unit using the capscrews and flange nuts. (Fig. 4-49)
12. Install the cross bars onto the fender assembly mount, then install the carriage bolts, flat washers, lock washers, and hex nuts. (Fig. 4-48)
13. Install the upper mount arms onto the cross bars using the Carriage bolts, strap, lock washers, and hex nuts. (Fig. 4-47)
14. Install the fender mount arm into the upper mount arm using the washers and cotter pin. (Fig. 4-46)
15. Install the fender mount arm chain using the chain retainer, capscrew, spring, washer, and hex nut. (Fig. 4-45)
16. Install the fender panels onto the mount arms using the capscrews and hex nuts. (Fig. 4-44)
17. Torque all hardware to the specification listed in the maintenance section.

FIG. 4-47

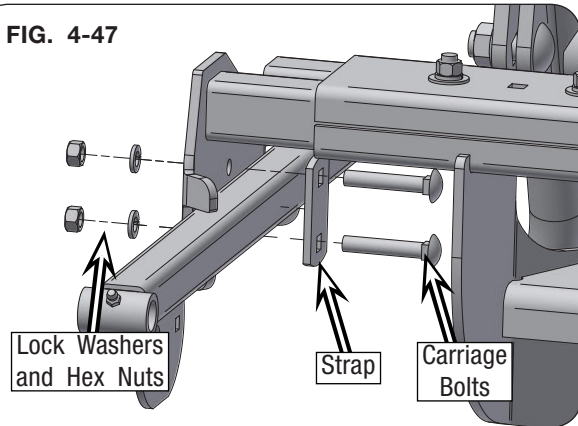


FIG. 4-48

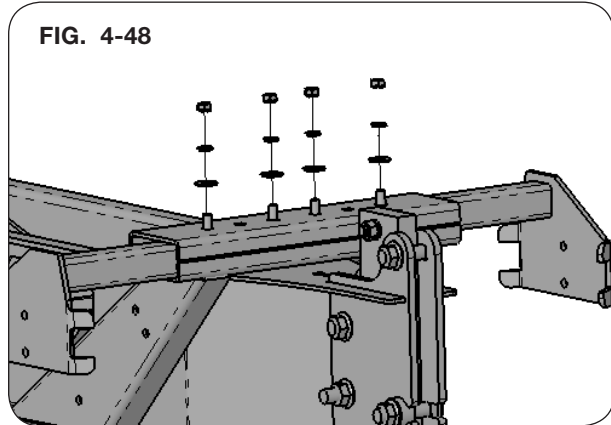
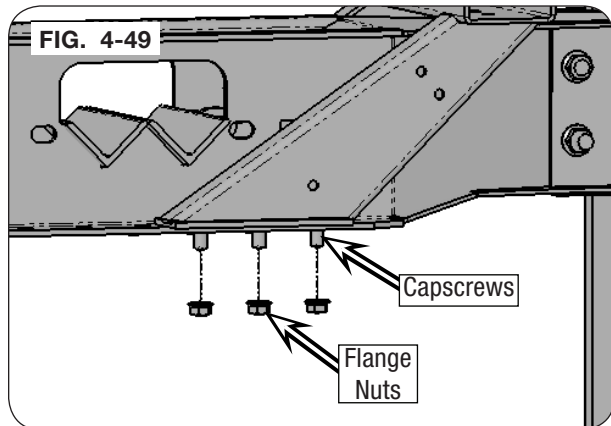


FIG. 4-49



Fender Unit Disassembly and Assembly (Continued)

WARNING

- KEEP HANDS CLEAR OF PINCH POINT AREAS.
- EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING IMPLEMENT.

For Closed Top Fenders:

1. Leave the unit attached to the tractor, raise the unit, then lower the support stands to the ground.

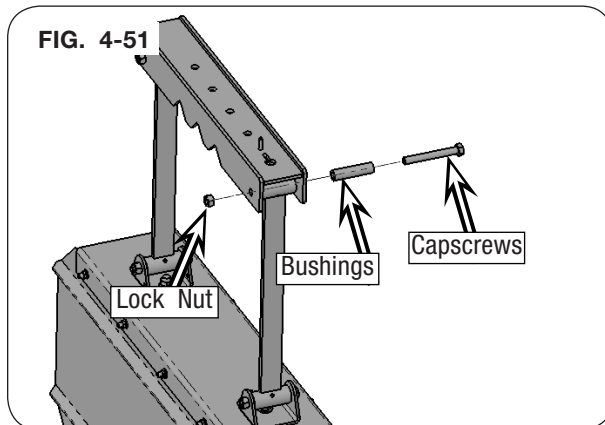
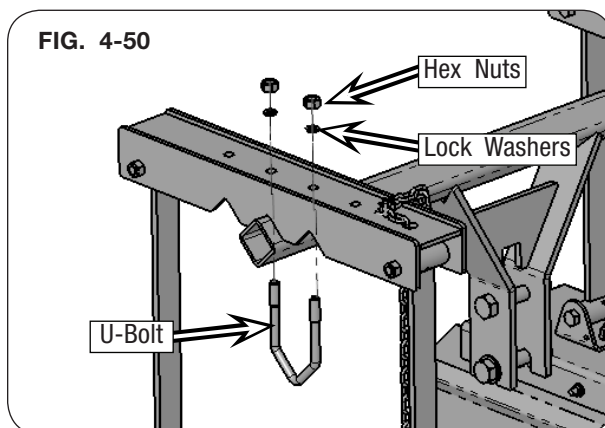
2. Lower the unit until it is supported by the stands, then set the tractors parking brake and remove the key.



3. Remove the u-bolt, lock washers, and hex nuts, then remove the fender assembly from the mount tube. (Fig. 4-50)

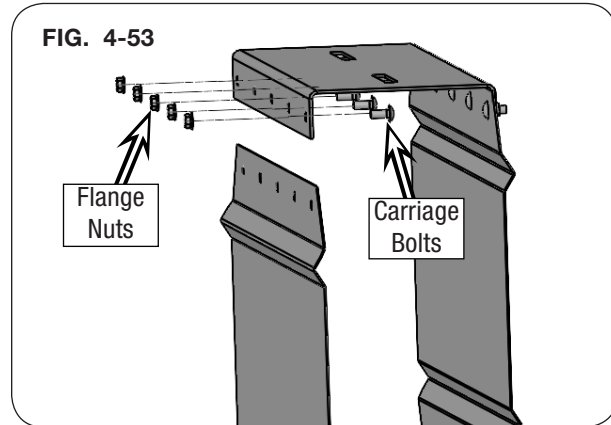
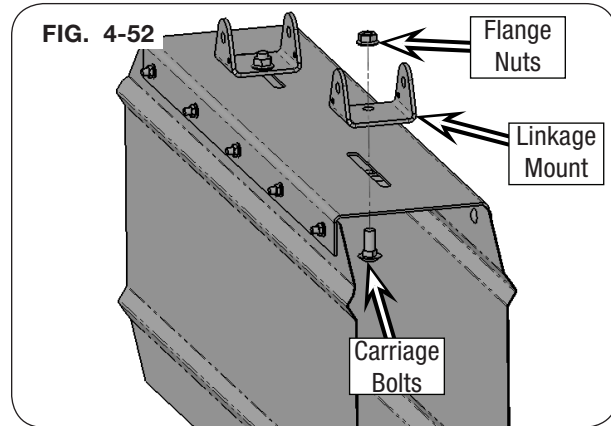
4. Remove the hair pin then remove the chain from the upper channel.

5. Remove the capscrews, lock nuts and bushings from the upper side of the linkage arms, then remove the upper channel. Repeat on bottom side of the linkages, then remove the linkages from the top of the fenders. (Fig. 4-51)



Fender Unit Disassembly and Assembly (Continued)


6. Remove carriage bolts and flange nuts from the top of the fenders, then remove the linkage mounts. (Fig. 4-52)
7. Remove the carriage bolts and flange nuts from the top of the fenders, then remove the fender sides. (Fig. 4-53)
8. Repeat steps 1-5 on opposite side. Inspect parts for wear or damage and replace if necessary.
9. Inspect parts for wear or damage and replace if necessary.
10. Install the fender sides onto the fender top using the carriage bolts and flange nuts. (Fig. 4-53)
11. Install linkage mounts onto the top of the fenders using the carriage bolts and flange nuts. (Fig. 4-52)
12. Install the linkages along with the bushings, capscrews, and lock nuts into the linkage mounts on the fenders, then install the upper channel onto the linkages using the bushings, capscrews, and lock nuts. (Fig. 4-51)
13. Install the chain through the upper channel, then secure it with the hair pin.
14. Install the fenders onto the fender mount using the u-bolts, lock washers, and hex nuts. (Fig. 4-50)
15. Torque all hardware to the specification listed in the maintenance section.



Toolbar Internal Cylinder Removal

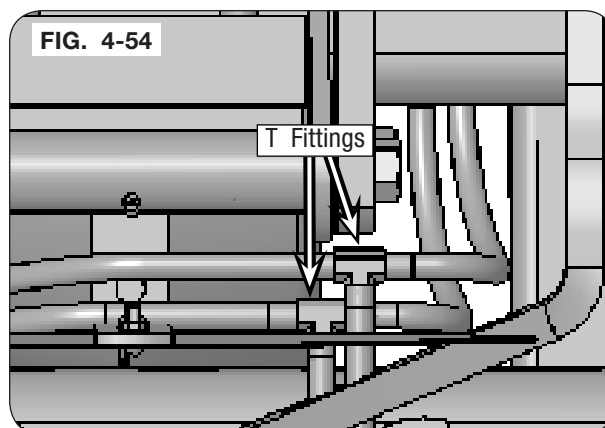
WARNING

- KEEP HANDS CLEAR OF PINCH POINT AREAS.
- EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING IMPLEMENT.
- HIGH-PRESSURE FLUIDS CAN PENETRATE THE SKIN AND CAUSE SERIOUS INJURY OR DEATH. LEAKS OF HIGH-PRESSURE FLUIDS MAY NOT BE VISIBLE. USE CARDBOARD OR WOOD TO DETECT LEAKS IN THE HYDRAULIC SYSTEM. SEEK MEDICAL TREATMENT IMMEDIATELY IF INJURED BY HIGH-PRESSURE FLUIDS.

1. Leave the unit attached to the tractor, raise the unit, then lower the support stands to the ground.
2. Lower the unit until it is supported by the stands, then set the tractors parking brake and remove the key. 
3. Ensure that the cylinder locking pins are in the storage position, then fold the wings until they are fully resting on the wing stops.
4. Relieve hydraulic pressure from the lines, then store the hydraulic lines on the courtesy plaque.

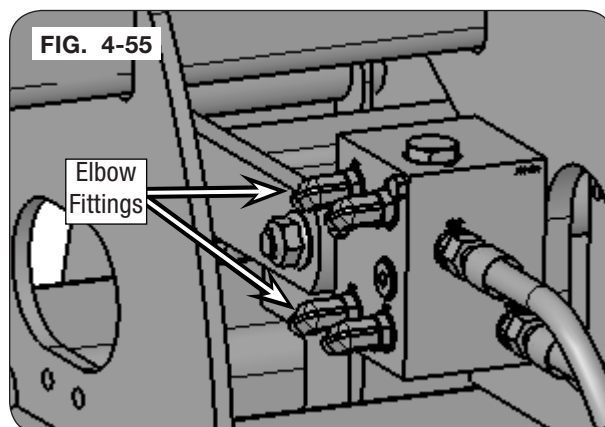
For Single Cylinder Wings:

5. Locate the T fittings near the center of the toolbar. Mark the ends of the hoses and fitting for easy re-installation. (Fig. 4-54)
6. Remove the cylinder hoses from the fittings and cover the ends of the hoses and fitting to protect from debris.



For Dual Cylinder Wings:

7. Locate the hydraulic manifold elbow fittings, then mark the hoses and elbows for easy re-installation. (Fig. 4-55)
8. Remove the hoses from the elbow fittings, then cover the ends of the hoses and fittings to protect from debris.

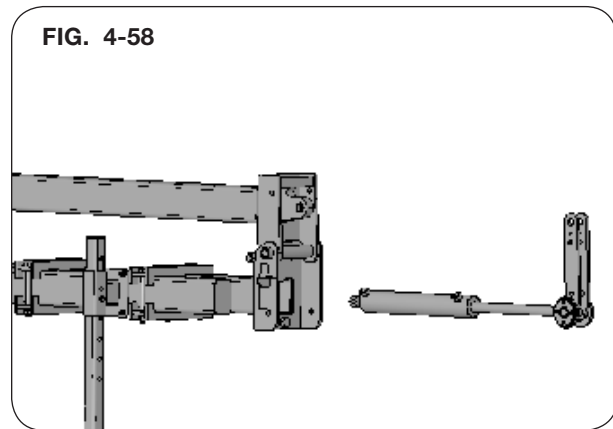
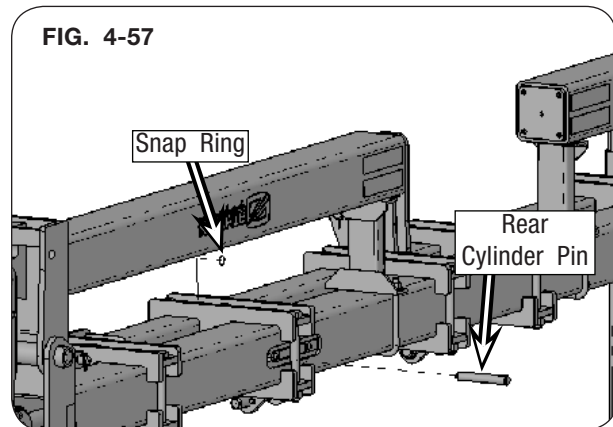
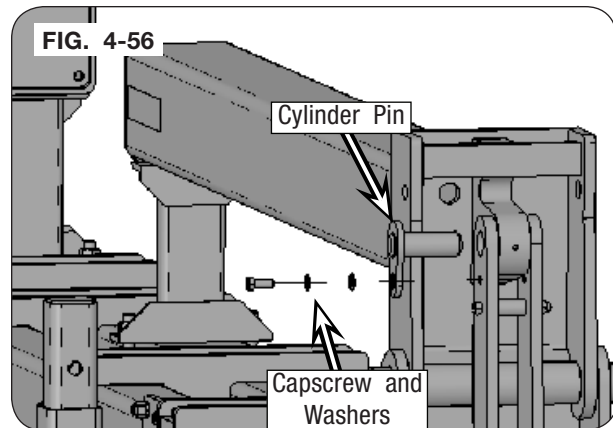


Toolbar Internal Cylinder Removal (Continued)

9. Remove the locking capscrew, lock washer and flat washer that hold the cylinder pin in place, then remove the cylinder pin from the assembly. (Fig. 4-56)
10. Remove the snap ring and rear cylinder pin, then remove the cylinder from the toolbar. (Fig. 4-57 and 4-58)

NOTE: Depending on configuration the rear cylinder pin may be hidden behind a row unit.

11. Inspect parts for wear or damage and replace if necessary.
12. Route the hydraulic lines and install the wing cylinder into the tool bar, then install the rear cylinder pin and snap ring. (Fig. 4-58 and 4-57)
13. Install the wing pin and the capscrew that holds it in place. (Fig. 4-56)
14. Install the hydraulic lines onto the T fittings or or elbow fittings depending on what the unit is equipped with, then torque all hardware to the specification listed in the maintenance section. Purge the hydraulic system and test for proper function. (Fig. 4-48 and 4-47)



Storage

Do the following before placing the implement in storage:

1. Remove dirt and trash which could cause rusting.
2. Repaint any chipped or scraped areas.
3. Coat all earth moving surfaces with grease or suitable rust preventative.
4. Inspect for damage or worn parts, replace before next season.
5. Store implement inside, away from livestock.
6. Block up implement to keep tires and ground tools off ground.
7. Replace all worn, torn or faded decals and reflectors.

Troubleshooting

Problem	Possible Cause	Corrective Action
Tooling Does Not Penetrate Soil	Sweep standard pitch angle is not correct	Increase sweep standard pitch angle
	Row unit depth is too shallow	Increase row unit depth
	Center coulter depth is too shallow	Adjust center coulter depth to be lower
	Row unit down pressure is too low	Increase row unit down pressure
	Toolbar is running too high	Adjust tractor hitch until toolbar is running 30-32 inches above ground level
Row Unit Plugs With Field Residue	Center coulter depth is too shallow	Adjust center coulter to cut one inch lower than the sweep point.
	Sweep depth is too shallow	Adjust sweep depth so that sweep is running below surface residue
	Ground speed is too fast	Lowering ground speed will allow residue to work through unit better
	Sweep pitch is too aggressive	Adjusting sweep pitch to near parallel to ground level will reduce soil action.
Implement Does Not Trail Straight	Gauge wheel and tooling adjustments not uniform	Row unit tooling adjustments must be uniform from row unit to row unit

Complete Torque Chart

Capscrews - Grade 5

NOTE:

- Grade 5 capscrews can be identified by three radial dashes on the head.
- For wheel torque requirements, refer to Wheels and Tires.
- Tighten U-bolts evenly and equally to have the same number of threads exposed on each end.



SIZE	FOOT POUNDS	NEWTON METERS
1/4-20	8-10	11-13
1/4-28	9-11	12-15
5/16-18	15-17	20-23
5/16-24	17-19	23-26
3/8-16	25-28	34-38
3/8-24	28-31	38-42
7/16-14	40-45	54-61
7/16-20	45-50	61-68
1/2-13	62-68	84-92
1/2-20	68-75	92-102
9/16-12	90-98	122-133
9/16-18	100-110	134-148
5/8-11	120-135	162-183
5/8-18	124-137	168-186
3/4-10	200-220	270-300
3/4-16	210-230	285-310
7/8-9	330-350	425-475
7/8-14	360-380	460-515
1-8	500-525	675-710
1-14	540-560	730-760
1 1/8-7	600-635	815-860
1 1/8-12	665-700	920-950
1 1/4-7	850-895	1150-1215
1 1/4-12	940-990	1275-1340
1 3/8-6	1125-1175	1525-1590
1 3/8-12	1280-1335	1735-1810
1 1/2-6	1500-1560	2035-2115
1 1/2-12	1685-1755	2285-2380

IMPORTANT

- Follow these torque recommendations except when specified in text.

Complete Torque Chart (Continued)

Capscrews - Grade 8

NOTE:

- Grade 8 capscrews can be identified by six radial dashes on the head.
- For wheel torque requirements, refer to **Wheels and Tires**.
- Tighten U-bolts evenly and equally to have the same number of threads exposed on each end.



SIZE	FOOT POUNDS	NEWTON METERS
5/16-18	20-22	27-30
5/16-24	21-23	28-31
3/8-16	35-39	47-53
3/8-24	36-41	49-55
7/16-14	54-58	73-78
7/16-20	55-60	75-80
1/2-13	82-88	110-120
1/2-20	94-99	125-135
9/16-12	127-134	170-180
9/16-18	147-155	199-210
5/8-11	160-170	215-230
5/8-18	165-175	225-235
3/4-10	280-295	380-400
3/4-16	330-365	445-495
7/8-9	410-430	555-580
7/8-14	420-440	570-595
1-8	630-650	850-880
1-14	680-700	920-950
1 1/8-7	900-930	1220-1260
1 1/8-12	930-950	1260-1290
1 1/4-7	1250-1300	1695-1760
1 1/4-12	1280-1320	1735-1790

IMPORTANT

- *Follow these torque recommendations except when specified in text.*

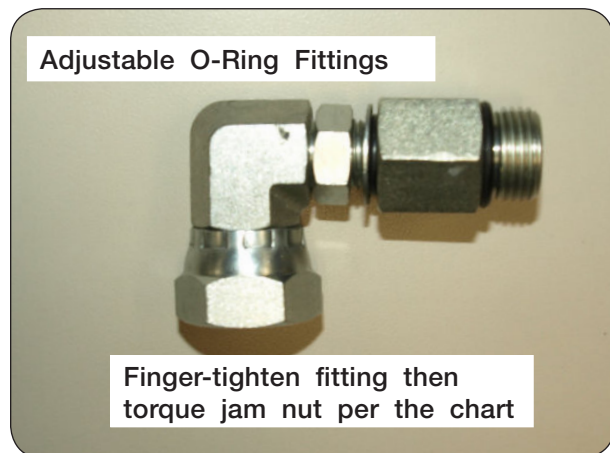
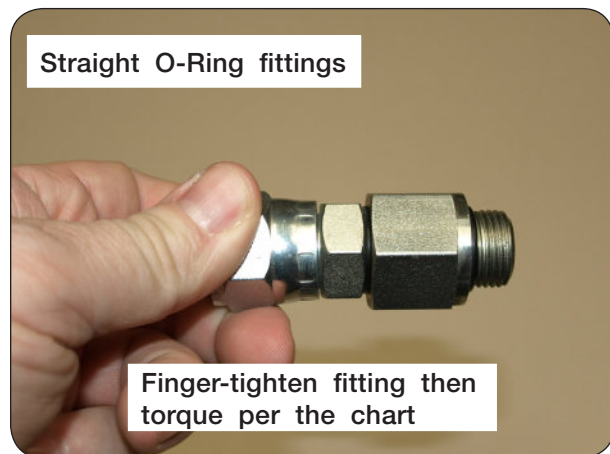
Hydraulic Fittings - Torque and Installation

Tightening O-Ring Fittings

1. Inspect components for damage or contamination. Do not connect any other type of fitting to an O-ring fitting.
2. For adjustable fittings, insure the jam nut and washer are fully backed up.
3. Lubricate the O-ring and threads on the fitting.
4. Turn the fitting into the port until it is finger tight.
5. For adjustable fittings, set in the desired position.
6. Using a wrench, torque the fitting to the value in the below table. For adjustable fittings the jam nut will be tightened.

Note: Never use a power tool to install a fitting.

Dash Size	Thread Size	Straight Stud Torque (Ft-Lbs)	Adjustable Stud Torque (Ft-Lbs)
-5	1/2-20	14-19	10-14
-6	9/16-18	18-24	12-16
-8	3/4-16	27-43	20-30
-10	7/8-14	36-48	30-36
-12	1-1/16-12	65-75	44-54
-14	1-3/16-12	75-99	53-70
-16	1-5/16-12	85-123	59-80
-20	1-5/8"-12	115-161	75-100
-24	1-7/8"-12	125-170	105-125

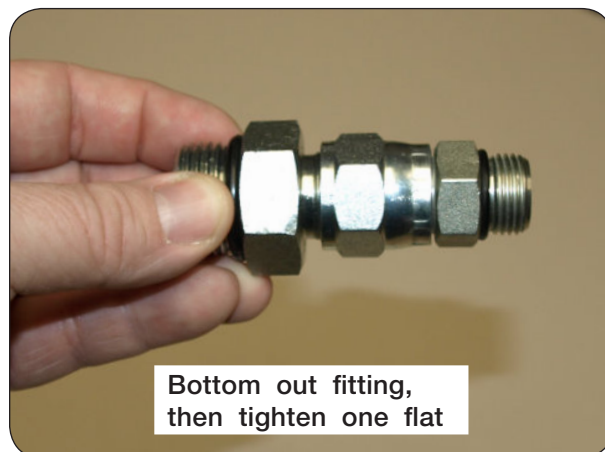
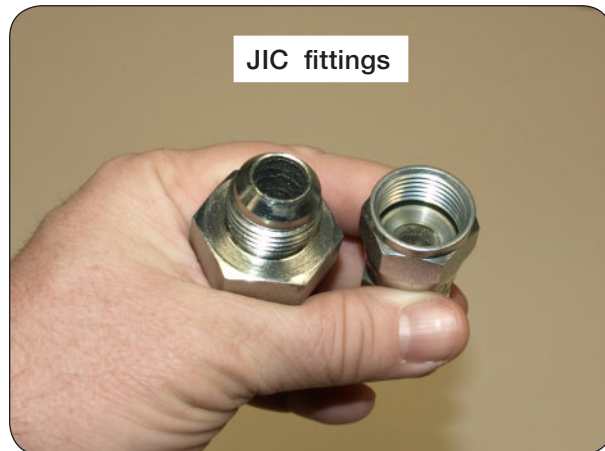


Hydraulic Fittings - Torque and Installation

Tightening JIC Fittings

1. Inspect all components for damage or contamination. Do not connect any other type of fitting to a JIC fitting.
2. Lubricate the threads.
3. Turn the fitting into the port until it bottoms out.
4. Use one wrench on the fixed hex on the hose to prevent twisting and a second on the swivel. Tighten the fitting another 60 degrees (or one flat)

Note: Never use a power tool to install a fitting



SECTION V

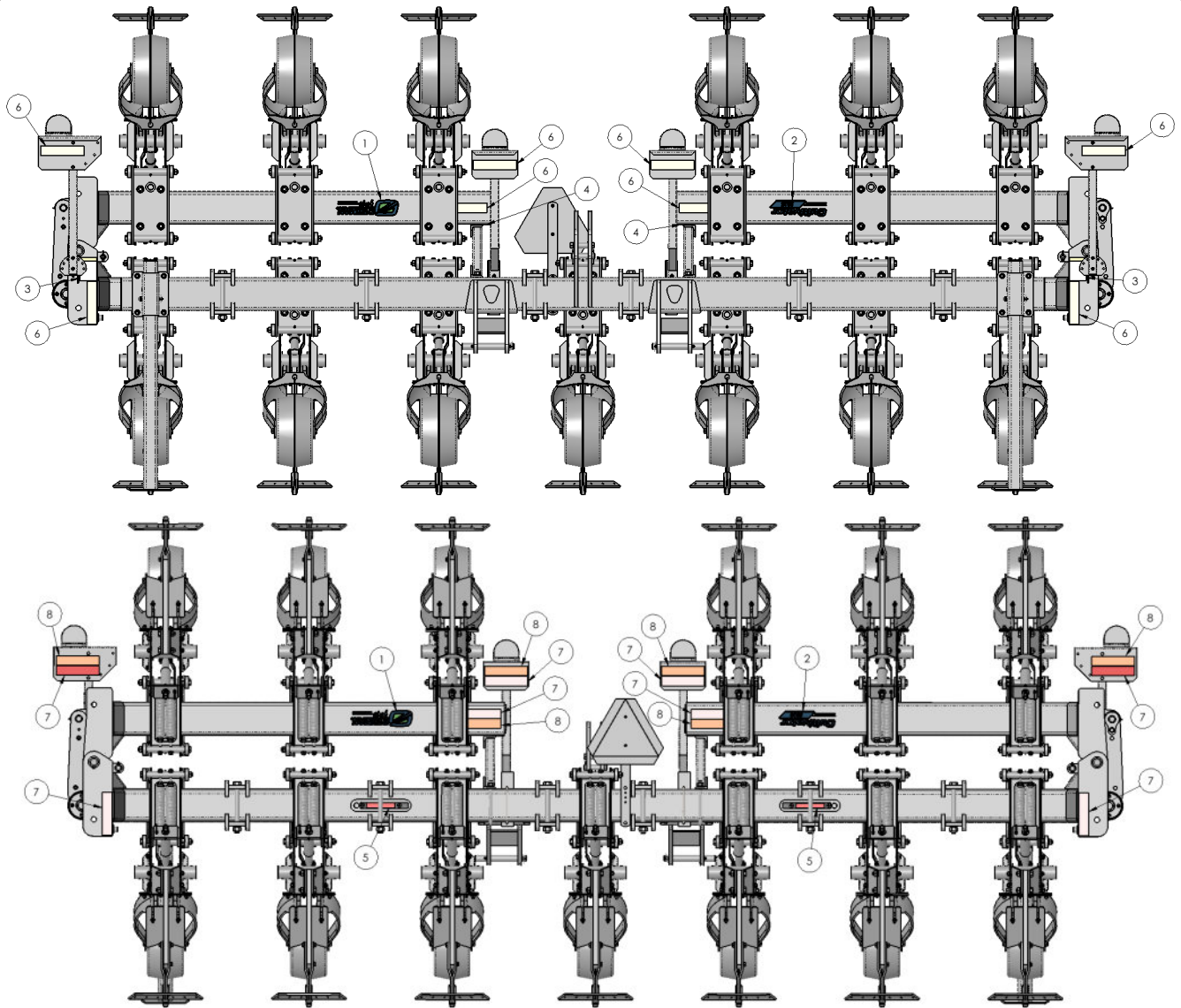
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8315 CULTIVATOR — Parts

Decals

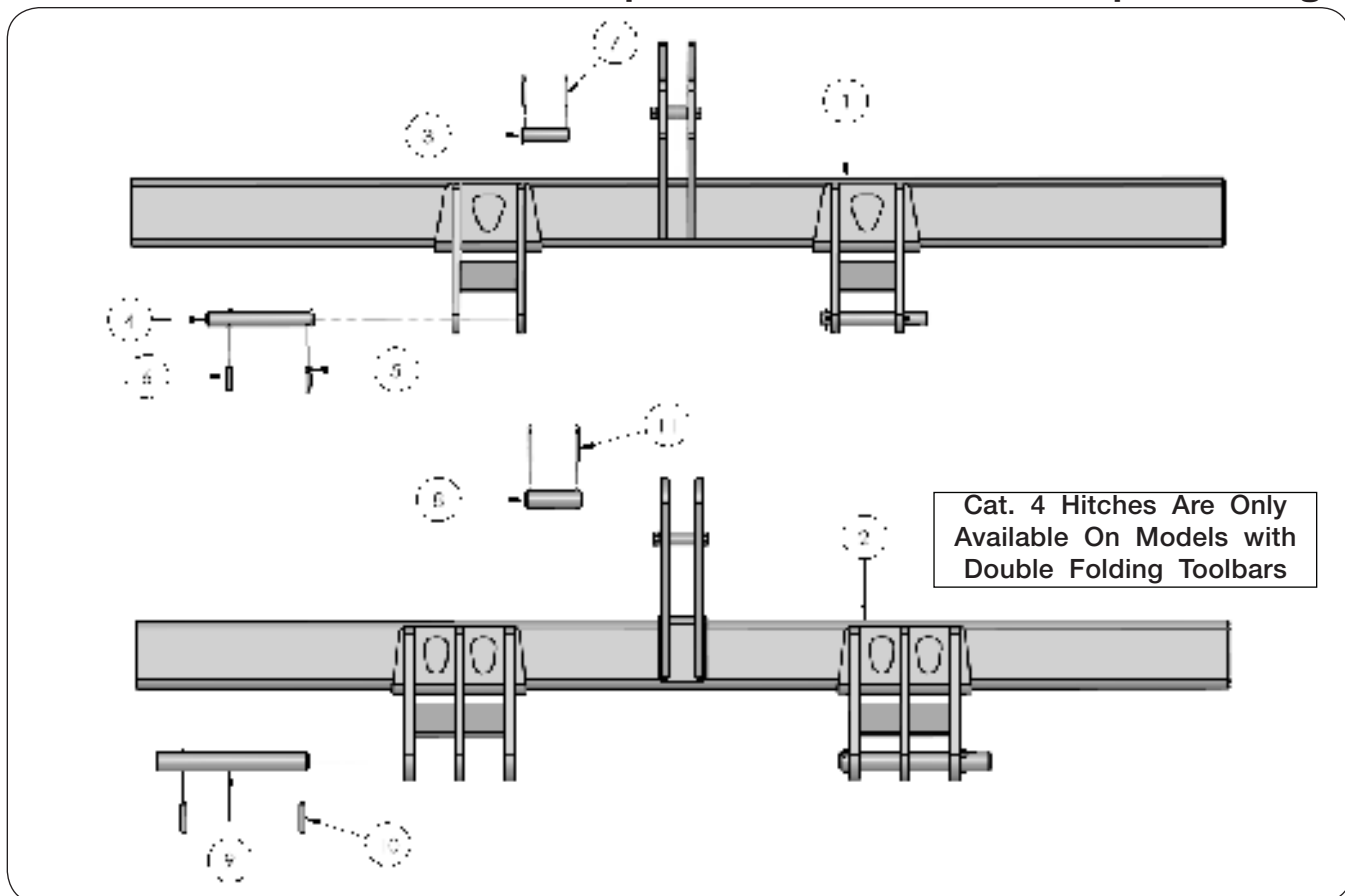
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	L153-1012	Orthman by Unverferth Decal	2	
2	L153-1006	8315 Cultivator Decal	2	
3	L153-013	Warning Decal, Folding Wings and Locks	2	
4	L153-044	Warning Decal, Operation Checklist	2	
5	L153-180	Cylinder Pin Decal	2	
6	L153-172	Reflective Decal, Yellow	8	
7	L153-173	Reflective Decal, Red	8	
8	L153-171	Reflective Decal, Orange	6	

Hitch Components

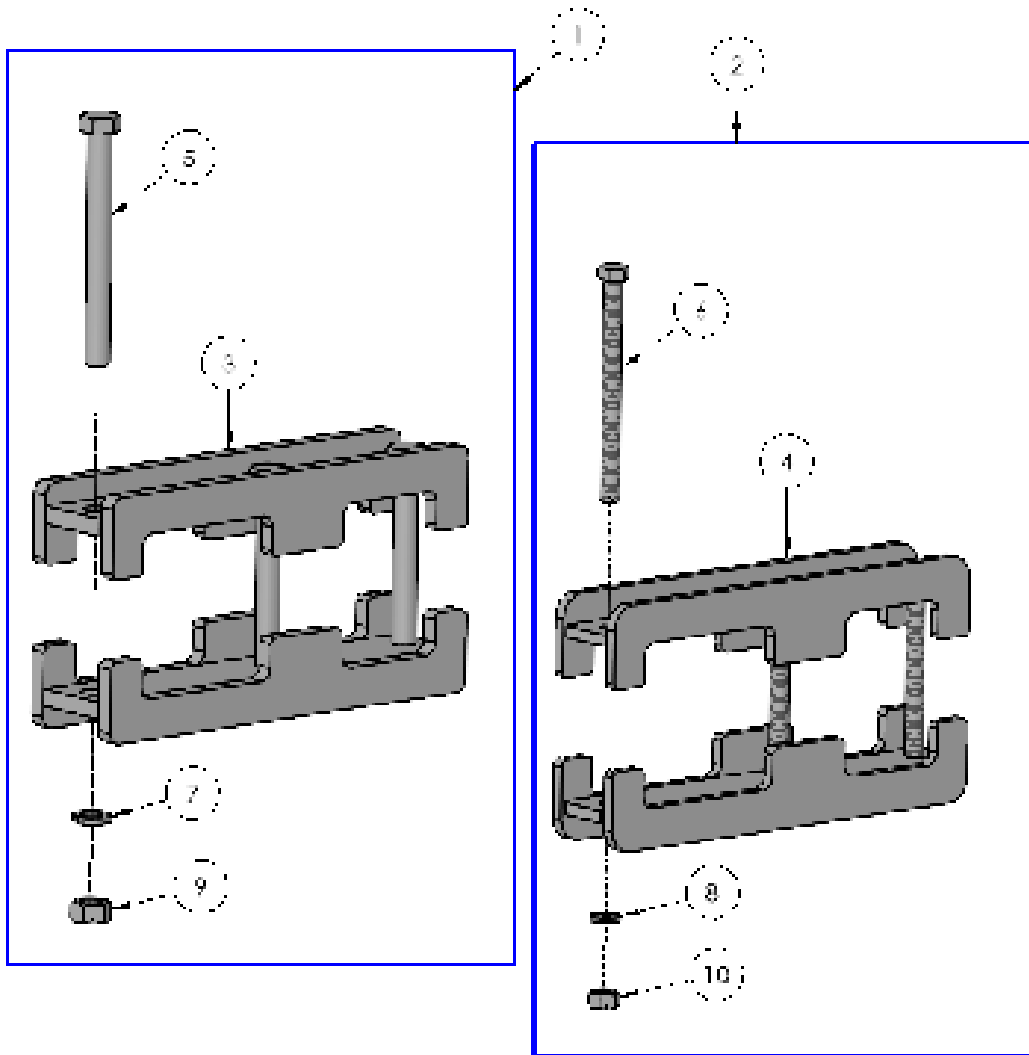
Please visit www.unverferth.com/parts/ for the most current parts listing.



1ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	L601-971	Medium Lift Hitch Package, 110" Category 3/3N	1	Includes Items 3-7
	L601-972	Medium Lift Hitch Package, 144" Category 3/3N		
	L601-973	Medium Lift Hitch Package, 168" Category 3/3N		
	L601-974	Medium Lift Hitch Package, 192" Category 3/3N		
	L601-976	Medium Lift Hitch Package, 240" Category 3/3N		
2	L601-420	Medium Lift Hitch Package, 110" Category 4/4N	1	Includes Items 8-11
	L601-421	Medium Lift Hitch Package, 144" Category 4/4N		
	L601-422	Medium Lift Hitch Package, 168" Category 4/4N		
	L601-423	Medium Lift Hitch Package, 192" Category 4/4N		
	L601-425	Medium Lift Hitch Package, 240" Category 4/4N		
3	L302-591	Upper Hitch Tug Pin	1	Cat. 3/3N Hitches Only
4	L302-592	Lower Hitch Tug Pin	2	Cat. 3/3N Hitches Only
5	L104-036	Lynch Pin	2	Cat. 3/3N Hitches Only
6	L104-102	Roll Pin, 1/2" x 2 1/2"	2	Cat. 3/3N Hitches Only
7	L104-102	Roll Pin, 1/2" x 2 1/2"	2	Cat. 3/3N Hitches Only
8	L321-514	Upper Hitch Tug Pin	1	Cat. 4/4N Hitches Only
9	L321-513	Lower Hitch Tug Pin	2	Cat. 4/4N Hitches Only
10	L104-091	Roll Pin, 1/2" x 3"	4	Cat. 4/4N Hitches Only
11	L104-022	Cotter Pin	2	Cat. 4/4N Hitches Only

Hitch Clamp Components

Please visit www.unverferth.com/parts/ for the most current parts listing.

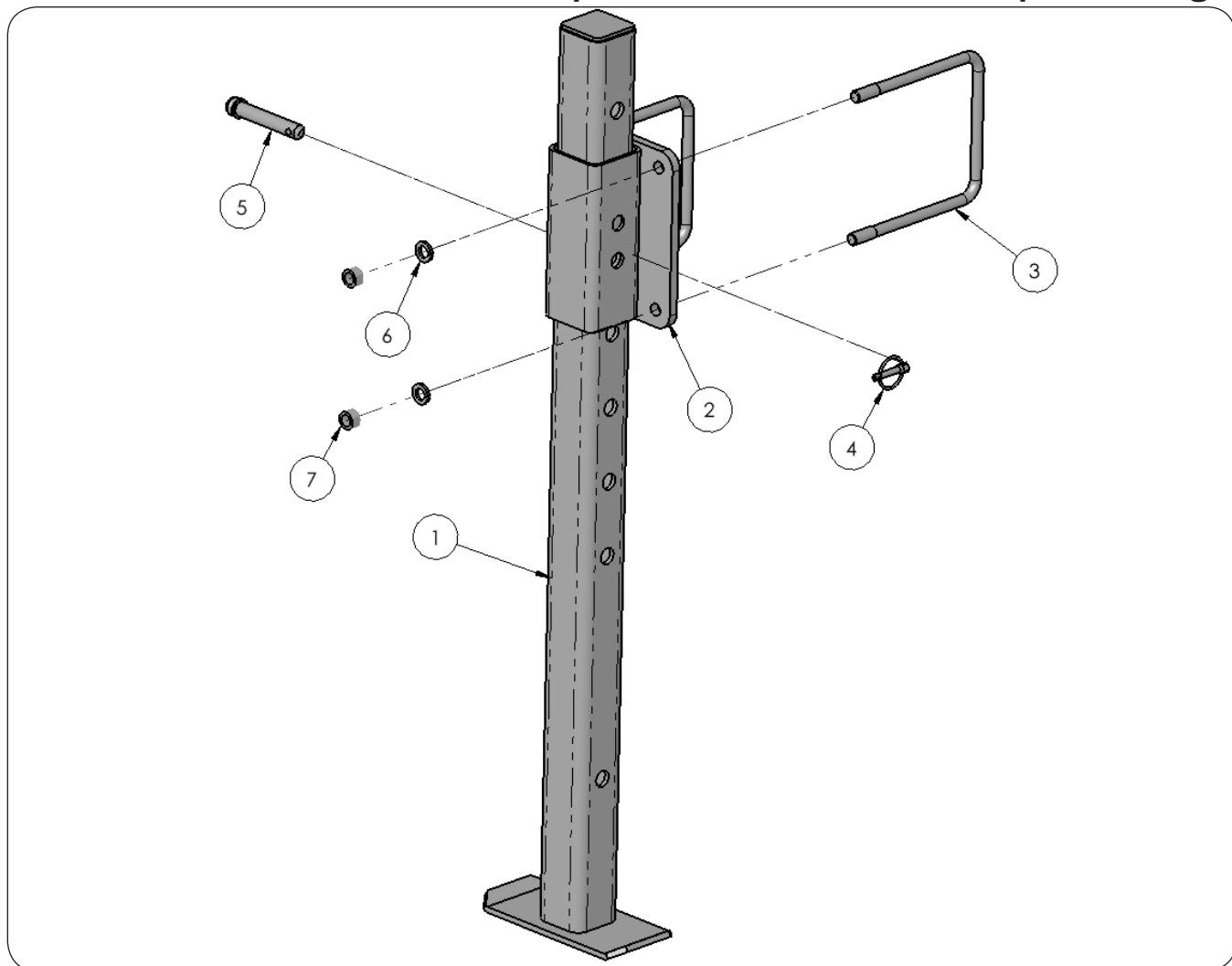


ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	L601-380	Clamp Assembly, Heavy Duty - Medium	1	
2	L601-360	Clamp Assembly, Regular Duty - Medium	1	
3	L302-571	Clamp, Heavy Duty	2	
4	L302-595	Clamp, Regular Duty	2	
5	L100-199	Capscrew, 1"-8UNC x 10" Grade 8	3	
6	L100-274	Capscrew, 3/4"-10UNC x 9 1/2" Grade 8	3	
7	L108-025	Lock Washer, 1"	3	
8	L108-022	Lock Washer, 3/4"	3	
9	L102-111	Hex Nut, 1"-8UNC Grade 5	3	
10	L102-009	Hex Nut, 3/4"-10UNC Grade 5	3	

8315 CULTIVATOR — Parts

Bar Stand Components

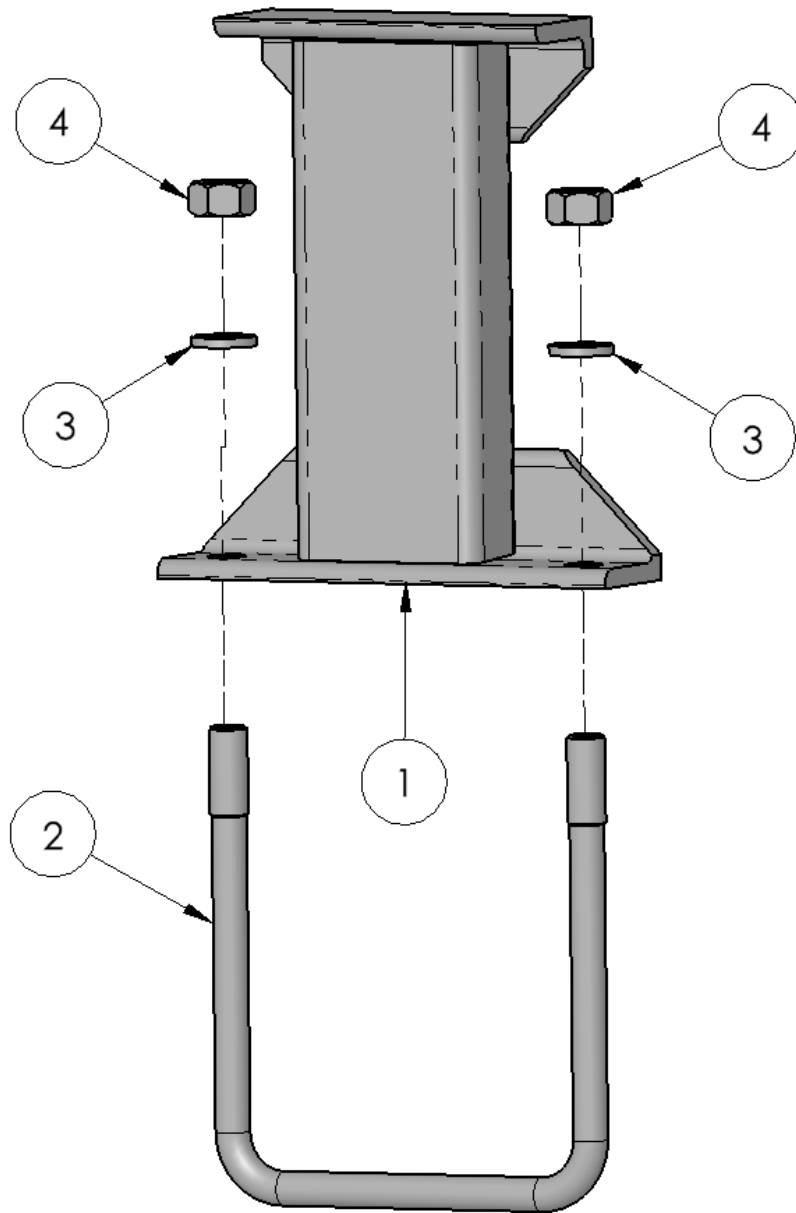
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	L600-354	Bar Stand Kit	2	48"
1	L303-744	Stand Tube, 48"	1	
2	L301-098	Stand Mount	1	
3	L315-027	U-Bolt, 5/8"-11UNC x 5" x 7"	2	
4	L104-065	Lynch Pin	1	
5	L303-846	Pin	1	
6	L108-021	Lock Washer, 5/8"	4	
7	L102-008	Hex Nut, 5/8"-11UNC	4	

180 Degree Wing Rest Components

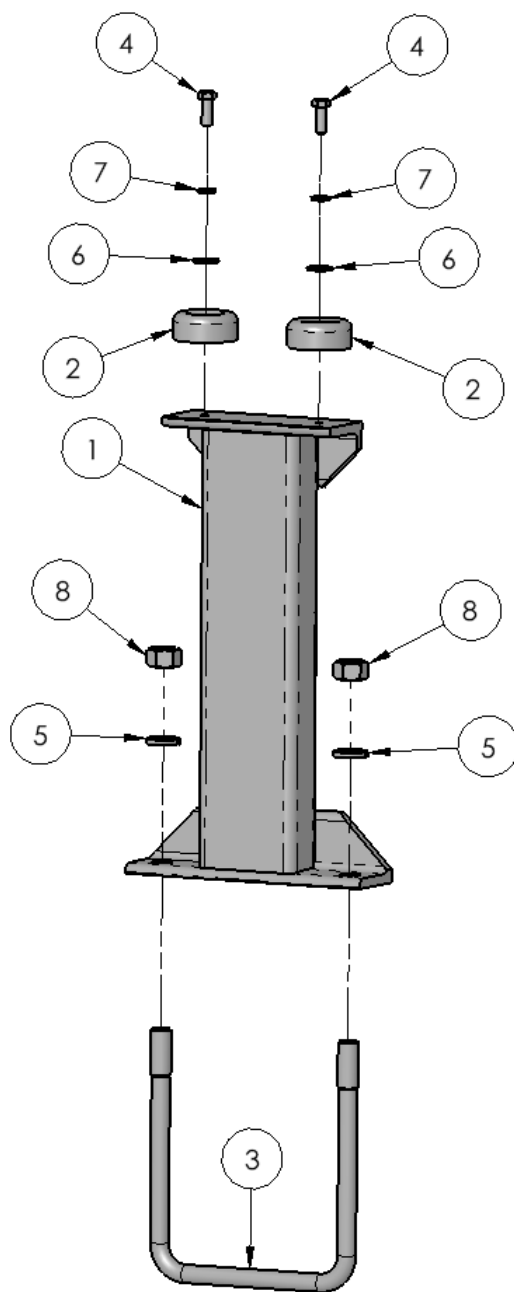
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	L301-545	180 Degree Wing Rest	1	
2	L315-031	U-Bolt, 3/4"-10UNC x 7" x 7"	1	
3	L108-022	Lock Washer, 3/4"	2	
4	L102-009	Hex Nut, 3/4"-10UNC	2	

170 Degree Wing Fold Assembly Components

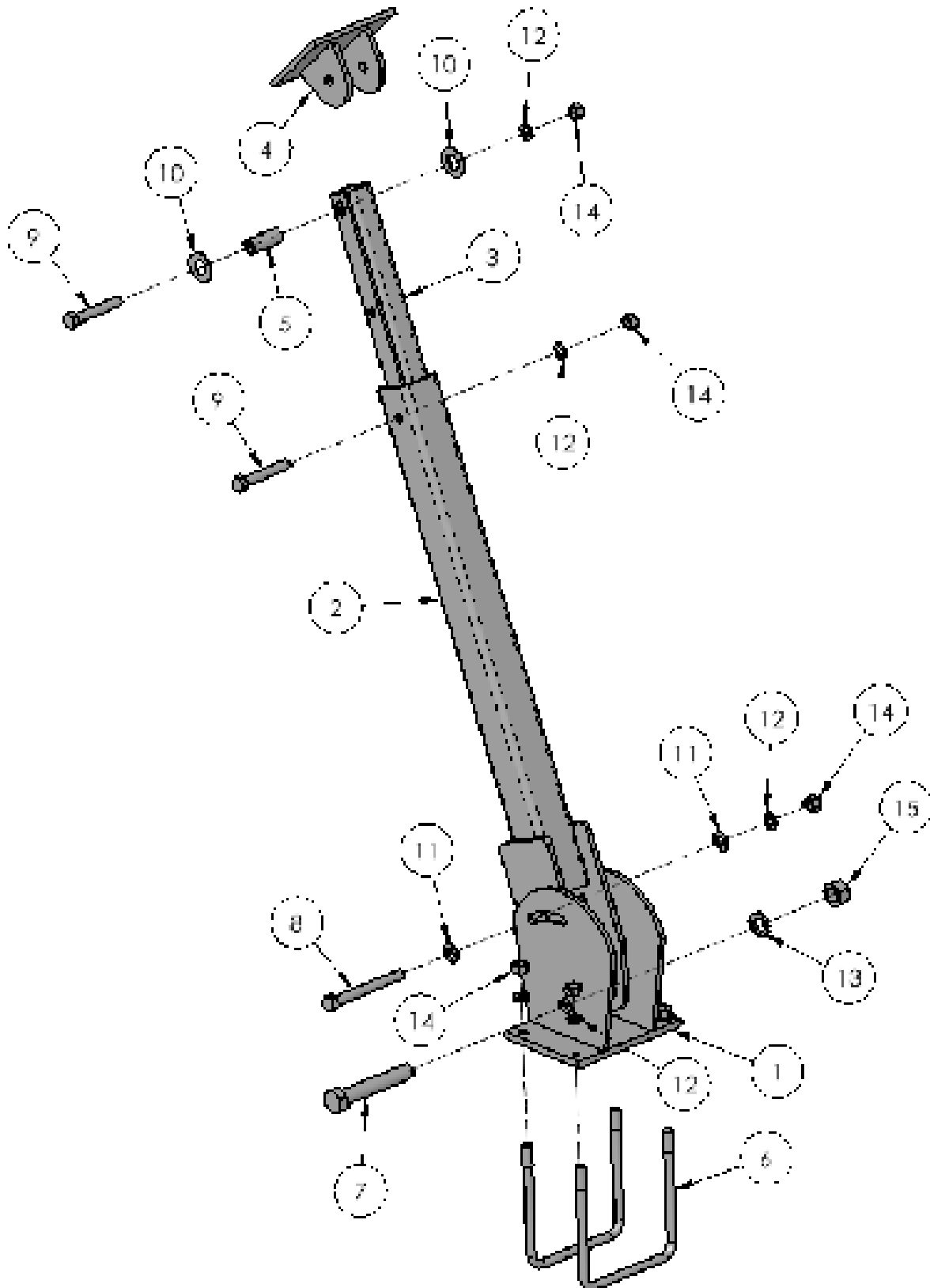
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	L301-524	170 Degree Wing Rest	1	
2	L146-008	Rubber Bumper	2	
3	L315-031	U-Bolt, 3/4"-10UNC x 7" x 7"	1	
4	L100-107	Capscrew, 3/8"-16UNC x 1"	2	
5	L108-022	Lock Washer, 3/4"	2	
6	L108-007	Flat Washer, 3/8"	2	
7	L108-018	Lock Washer, 3/8"	2	
8	L102-009	Hex Nut, 3/4"-10UNC	2	

Adjustable Wing Rest Components

Please visit www.unverferth.com/parts/ for the most current parts listing.



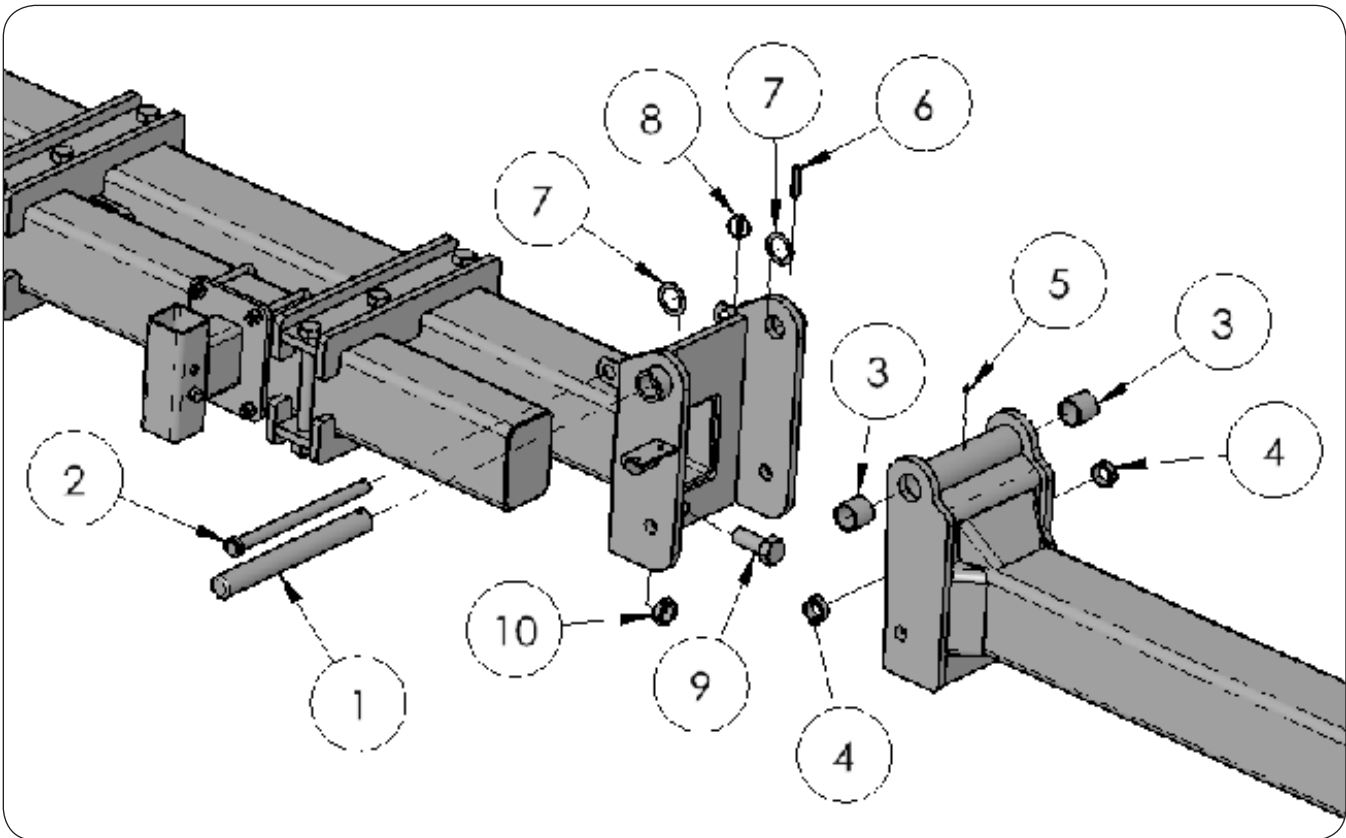
Adjustable Wing Rest Components

Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	L600-074	Adjustable Wing Rest Kit	1	
	L600-101	Adjustable Wing Rest Kit (Short)		
1	L300-065	Mount Bracket	1	
2	L300-071	Receiver Tube	1	
3	L300-067	Extension Tube	1	
4	L300-068	Rest Plate	1	
5	L300-066	Pivot Rest Bushing	1	
6	L315-030	U-Bolt, 5/8"-11UNC x 7" x 7"	2	
7	L100-290	Capscrew, 1"-8UNC x 6" Grade 5	1	
8	L100-154	Capscrew, 5/8"-11UNC x 6" Grade 5	1	
9	L100-219	Capscrew, 5/8"-11UNC x 4" Grade 5	2	
10	L108-004	Flat Washer, 1"	2	
11	L108-002	Flat Washer, 5/8"	2	
12	L108-021	Lock Washer, 5/8"	3	
13	L108-025	Lock Washer, 1"	1	
14	L102-008	Hex Nut, 5/8"-11UNC	7	
15	L102-111	Hex Nut, 1"-8UNC	1	

Toolbar Hinge Components

Please visit www.unverferth.com/parts/ for the most current parts listing.

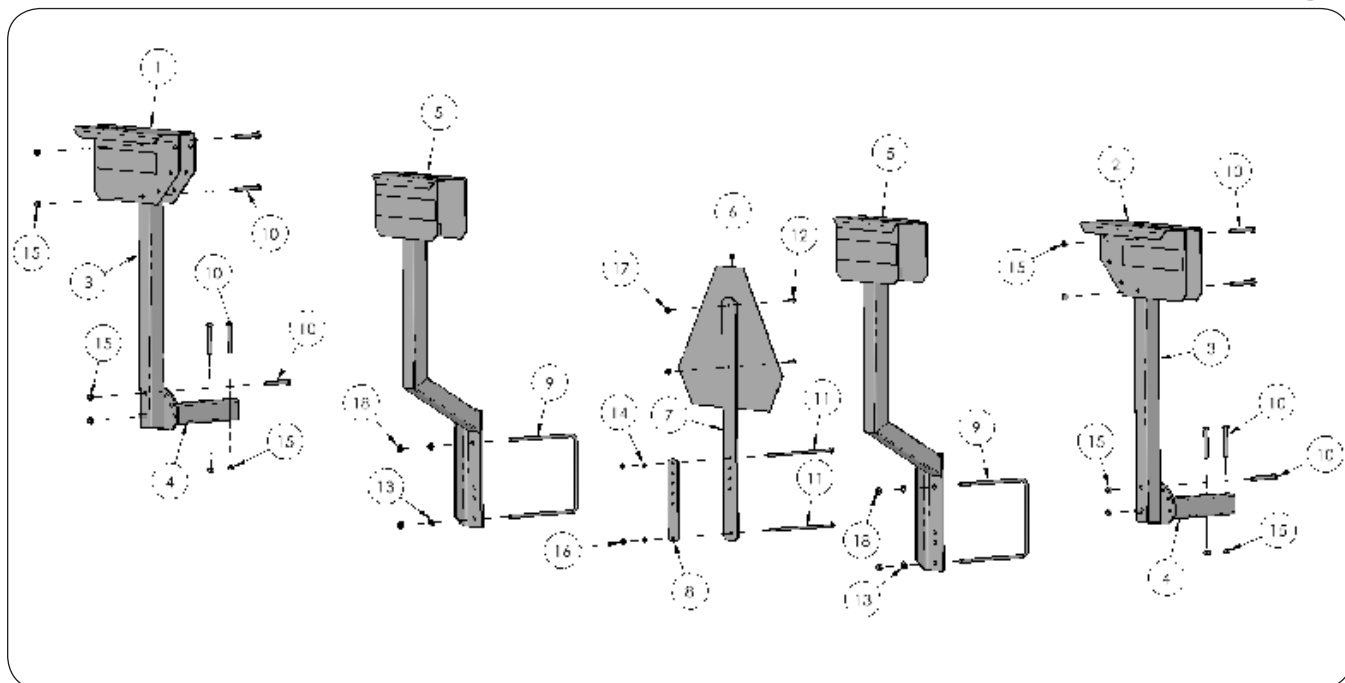


ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	L301-146	Toolbar Pivot Pin	1	
2	L301-156	Toolbar Locking Pin	1	
3	L134-005	Toolbar Pivot Bushing	2	
4	L134-040	Toolbar Cylindser Bushing	2	
5	L110-001	Grease Fitting	2	
6	L104-080	Roll Pin	1	
7	L134-023	Spacer Washer	2	
8	L104-065	Lynch Pin	1	
9	L100-471	Wing Level Adjustment Bolt	1	
10	L102-077	Jam Nut, 1 1/4"-7UNC	1	

8315 CULTIVATOR — Parts

Single Folding Toolbar Light Mounts and SMV Sign Components

Please visit www.unverferth.com/parts/ for the most current parts listing.

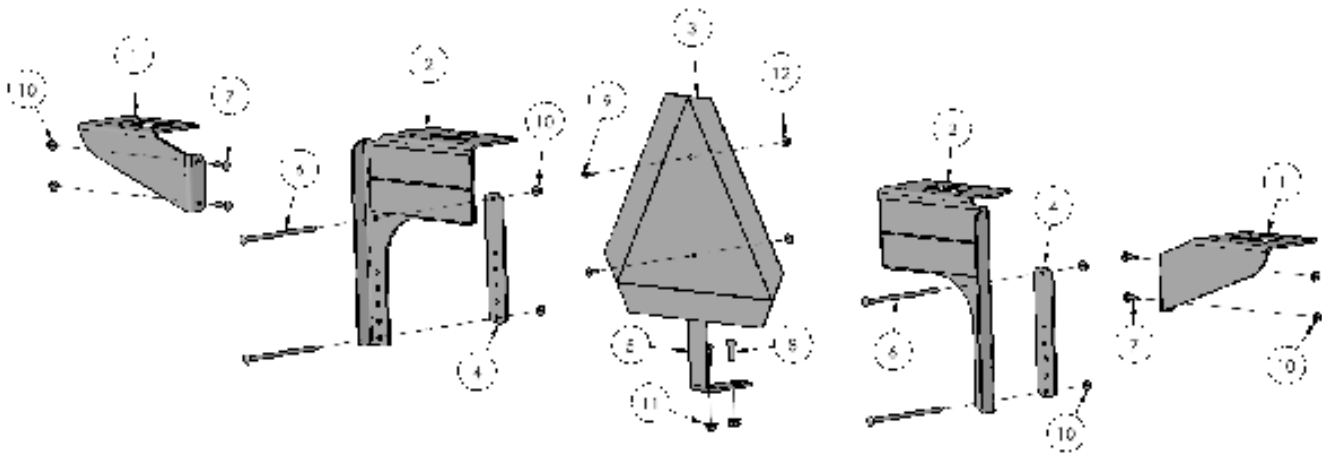


ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	L301-567	Adjustable Light Bracket, Right	1	
2	L301-568	Adjustable Light Bracket, Left	1	
3	L301-563	Adjustable Light Bracket Arm	2	
4	L301-562	Adjustable Light Bracket Mount	2	
5	L301-574	Inner Light Mount	2	
6	L153-109	SMV Sign	1	
7	L385-183	SMV Sign Mount	1	
8	L333-499	SMV Mount Strap	1	
9	L315-026	U-Bolt, 3/8"-16UNC x 7' x 7"	2	
10	L100-113	Capscrew, 3/8"-16UNC x 2 3/4" Grade 5	10	
11	L100-575	Carriage Bolt, 1/4"-20UNC x 8"	2	
12	L106-077	Capscrew, 1/4"-20UNC x 1"	2	
13	L108-018	Lock Washer, 3/8"	4	
14	L108-027	Lock Washer, 1/4"	2	
15	L102-056	Lock Nut, 3/8"-16UNC	8	
16	L102-002	Hex Nut, 1/4"-20UNC	2	
17	L102-085	Flange Nut, 1/4"-20UNC	2	
18	L102-005	Hex Nut, 3/8"-16UNC	4	

8315 CULTIVATOR — Parts

Double Folding Toolbar Light Mounts and SMV Sign Components

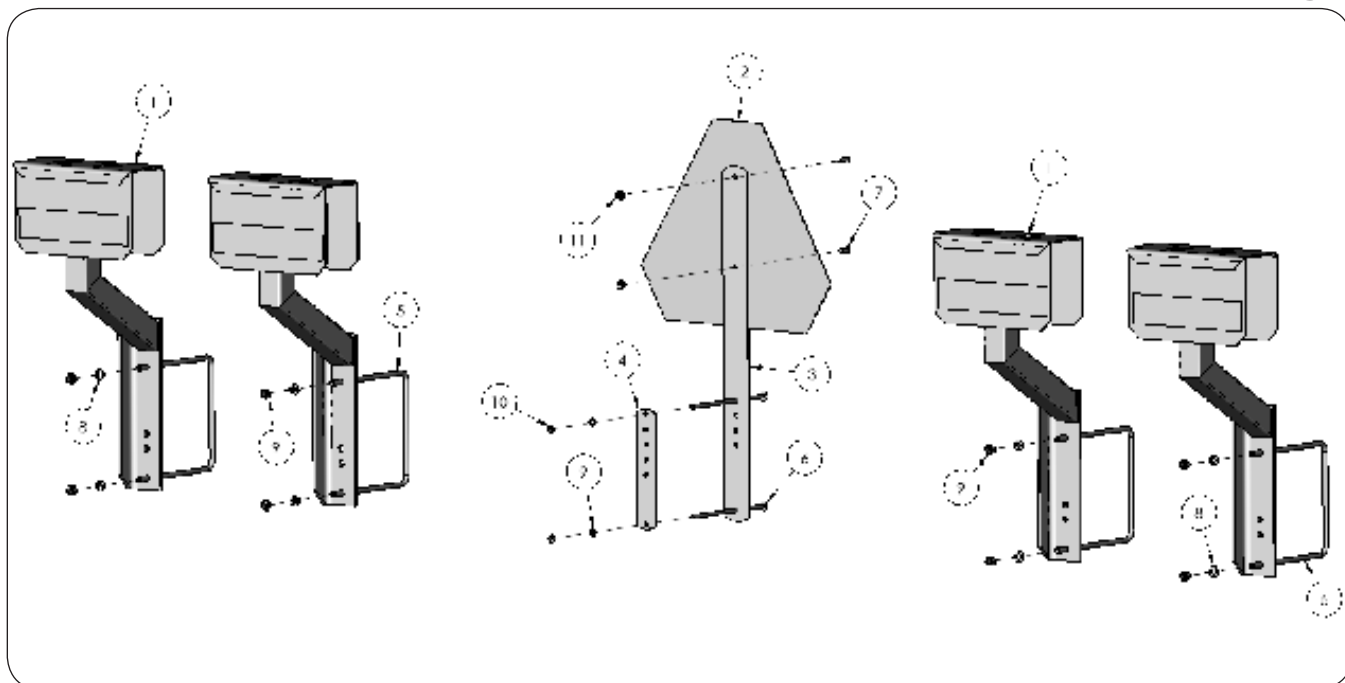
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	L341-822	Outer Light Mount (Left)	1	
	L341-821	Outer Light Mount (Right)	1	
2	L341-825	Inner Light Mount (Left)	1	
	L341-824	Inner Light Mount (Right)	1	
3	L153-109	SMV Sign	1	
4	L333-499	Inner Light Mount Strap	2	
5	L341-828	SMV Sign Mount	1	
6	L100-582	Carriage Bolt, 1/4"-20UNC x 6" Grade 2	4	
7	L100-001	Carriage Bolt, 1/4-20UNC x 1" Grade 8	4	
8	L100-107	Capscrew, 3/8"-16UNC x 1" Grade 5	2	
9	L106-077	Capscrew, 1/4"-20 x 1"	2	
10	L102-227	Flange Nut, 1/4"-20UNC Grade 5	4	
11	L102-060	Flange Nut, 3/8"-16UNC Grade 5	2	
12	L102-085	Flange Nut, 1/4"-20UNC Grade 2	2	

Rigid Toolbar Light Mounts and SMV Sign Components

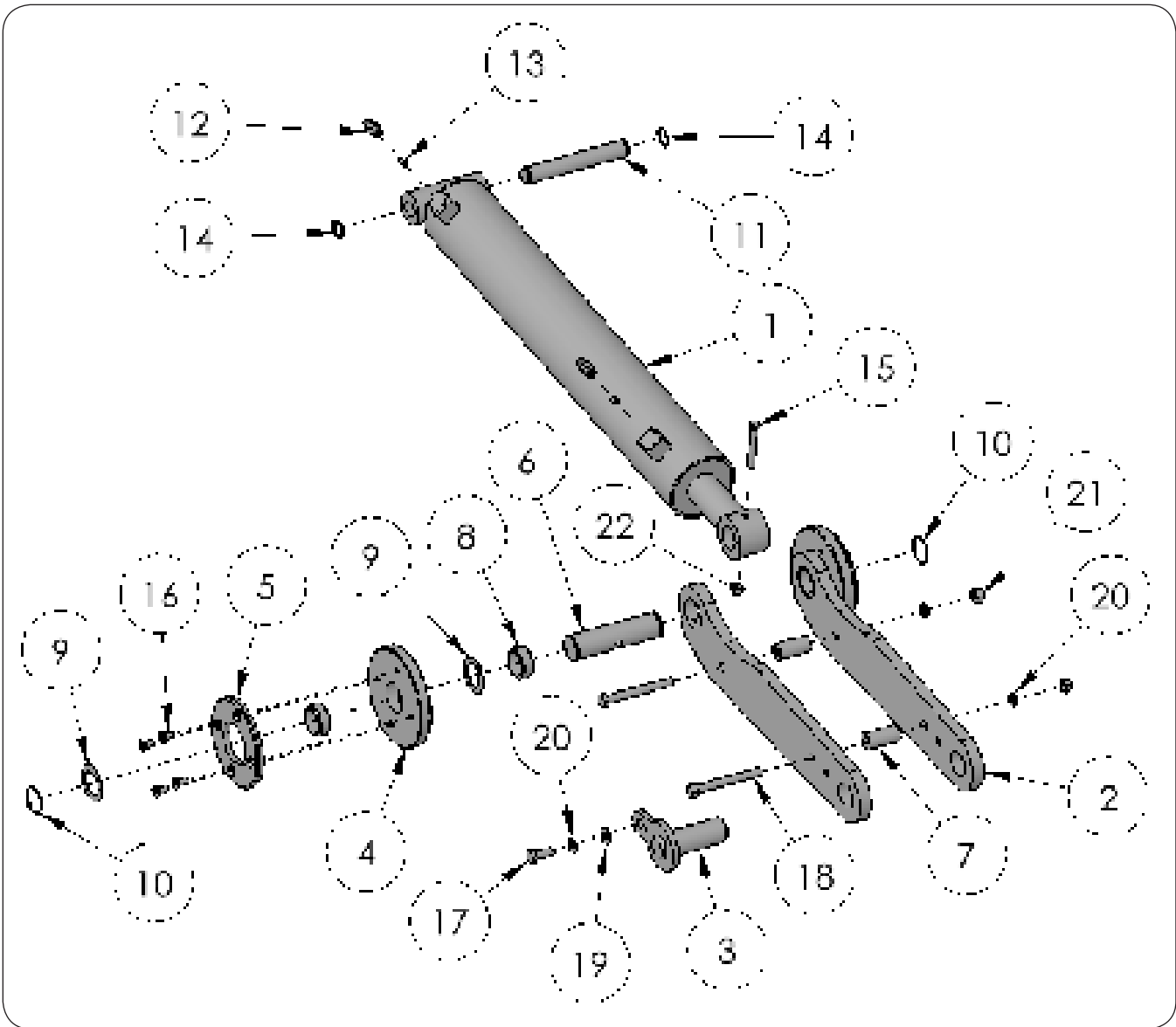
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	L301-573	Light Mount		
2	L153-109	SMV Sign		
3	L385-183	SMV Sign Mount		
4	L333-499	SMV Sign Mounting Strap		
5	L315-026	U-Bolt, 3/8"-16UNC x 7' x 7"		
6	L100-575	Carriage Bolt, 1/4"-20UNC x 8" Grade 8		
7	L106-077	Capscrew, 1/4"-20UNC x 1"		
8	L108-018	Lock Washer, 3/8"		
9	L108-027	Lock Washer, 1/4"		
10	L102-005	Hex Nut, 3/8"-16UNC Grade 2		
11	L102-002	Hex Nut, 1/4"-20UNC Grade 5		
12	L102-085	Flange Nut, 1/4"-20UNC Grade 2		

180 Degree Wing Fold Assembly Components

Please visit www.unverferth.com/parts/ for the most current parts listing.



8315 CULTIVATOR — Parts

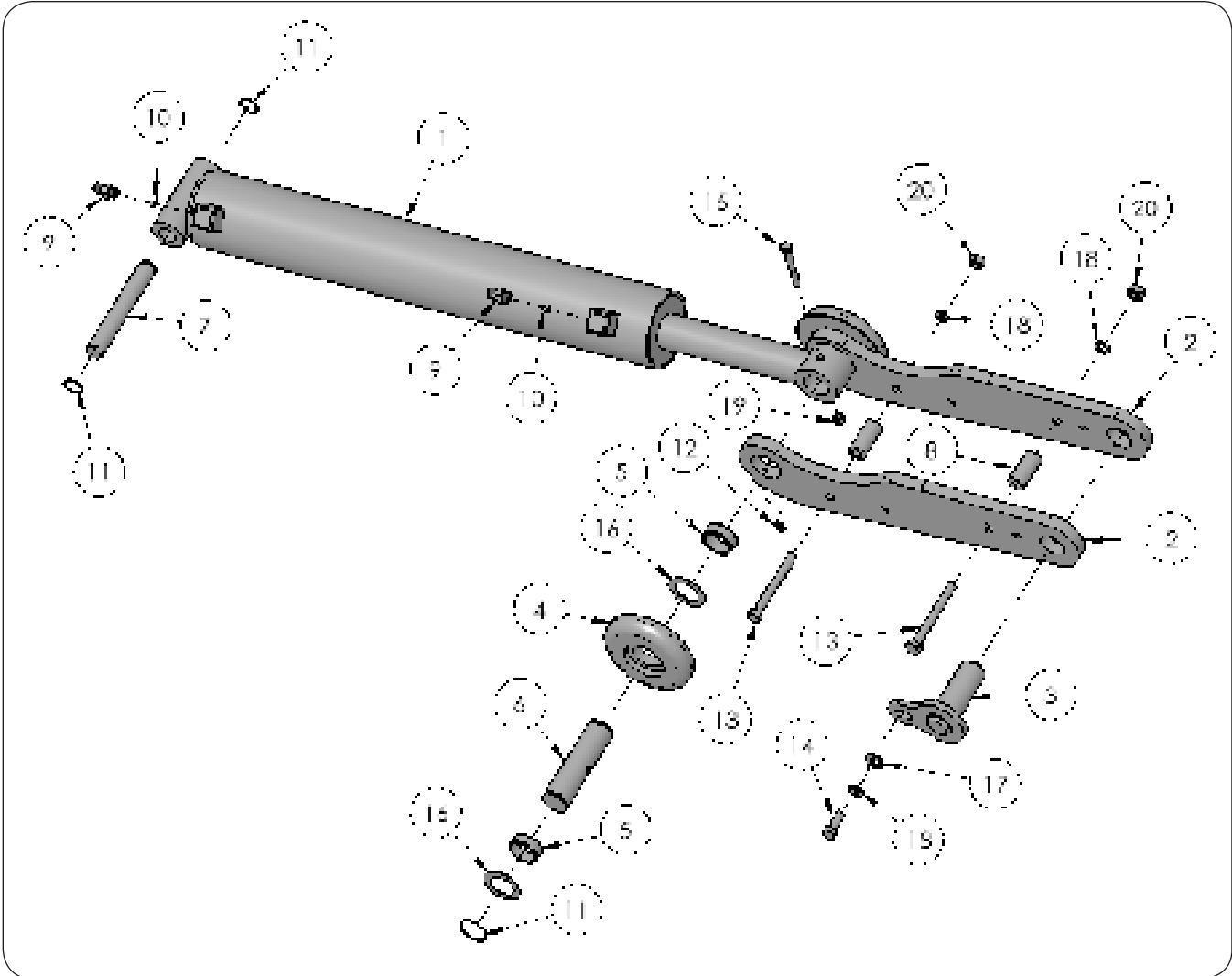
180 Degree Wing Fold Assembly Components

Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	L194-499	Cylinder, 4" x 24"	1	
2	L301-980	Connecting Strap	2	
3	L301-548	Linkage Pin	1	
4	L301-982	Guide Wheel	2	
5	L301-512	Friction Plate	2	
6	L301-948	Cylinder Pin	1	
7	L312-082	Spacer	2	
8	L134-040	Split Bushing	4	
9	L134-041	Flat Washer, 2 1/4" x 1 1/2"	4	
10	L104-052	Snap Ring, 1 1/2" External	2	
11	L301-500	Cylinder Pin	1	
12	L340-078	Adapter, 9/16" MB x 9/16" MJ	2	
13	L340-057	Restrictor, 3/8" x 3/8" x .055	2	
14	L104-053	Snap Ring, 1" External	2	
15	L100-098	Capscrew, 3/8"-16UNC x 3" Grade 5	1	
16	L106-107	Flat Head Screw, 3/8" x 3/4"	8	
17	L100-115	Capscrew, 1/2"-13UNC x 1 1/4" Grade 5	1	
18	L100-125	Capscrew, 1/2"-13UNC x 4 1/4" Grade 5	2	
19	L108-001	Flat Washer, 1/2"	1	
20	L108-020	Lock Washer, 1/2"	1	
21	L102-007	Hex Nut, 1/2"-13UNC	2	
22	L102-027	Lock Nut, 3/8"-16UNC	1	

170 Degree Wing Fold Assembly Components

Please visit www.unverferth.com/parts/ for the most current parts listing.



8315 CULTIVATOR — Parts

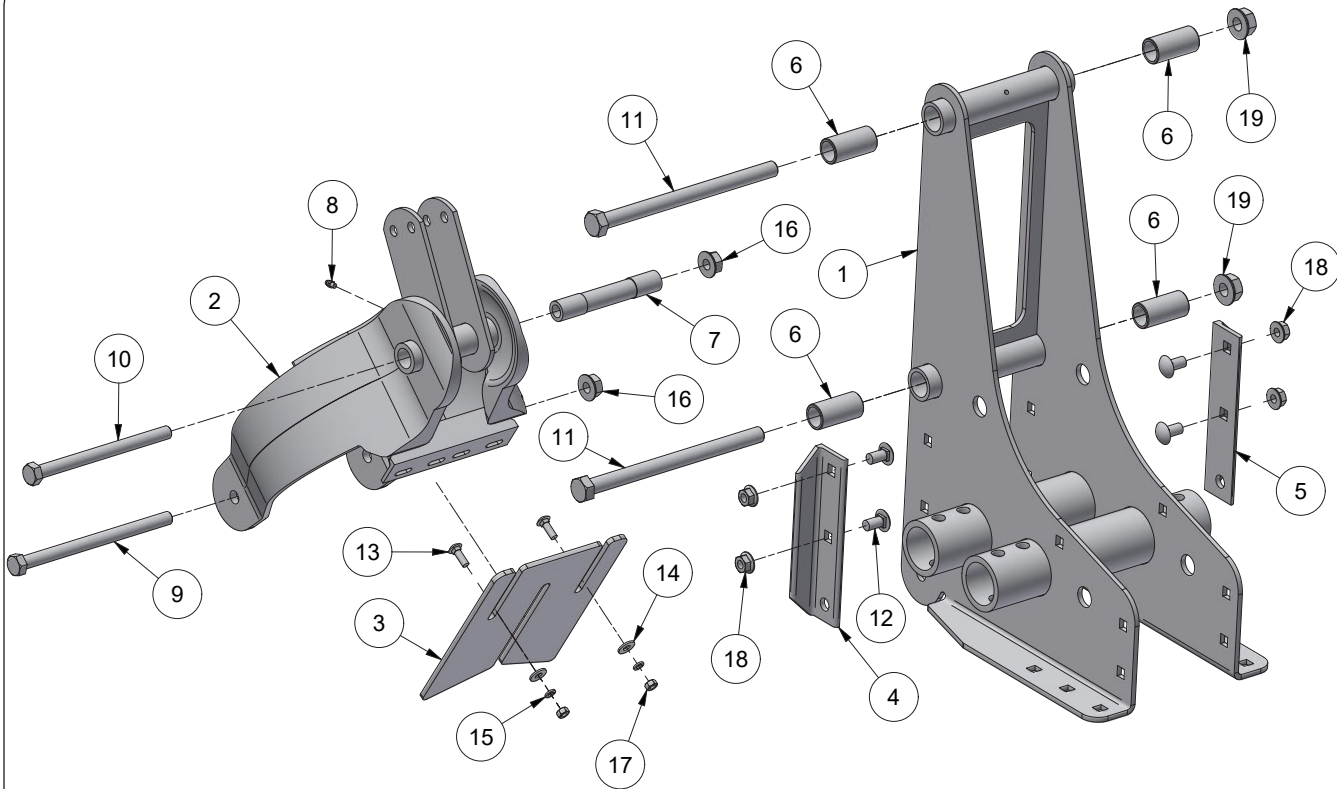
170 Degree Wing Fold Assembly Components

Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	L194-499	Hydraulic Cylinder, 4" x 24"	1	
2	L301-502	Connecting Strap	2	
3	L301-548	Linkage Pin	1	
4	L301-802	Guide Wheel	2	
5	L134-047	Split Bushing	2	
6	L321-151	Cylinder Pin	1	
7	L301-800	Cylinder Pin	1	
8	L317-714	Spacer	2	
9	L340-078	Adapter, 9/16" MB x 9/16" MJ	2	
10	L340-057	Restrictor, 3/8" x 3/8" x .055"	2	
11	L104-052	Snap Ring, 1" External	2	
12	L110-008	Grease Fitting, 1/4" x 90 Degrees	2	
13	L100-125	Capscrew, 1/2"-13UNC x 4 1/4" Grade 5	2	
14	L100-115	Capscrew, 1/2"-13UNC x 1 1/4" Grade 5	1	
15	L100-098	Capscrew, 3/8"-16UNC x 3" Grade 5	1	
16	L134-041	Flat Washer, 2 1/4" x 1 1/2"	2	
17	L108-001	Flat Washer, 1/2"	1	
18	L108-020	Lock Washer, 1/2"	1	
19	L102-027	Lock Nut, 3/8"-16UNC	1	
20	L102-007	Hex Nut, 1/2"-13UNC		

Main Frame and Front Fork Components

Please visit www.unverferth.com/parts/ for the most current parts listing.

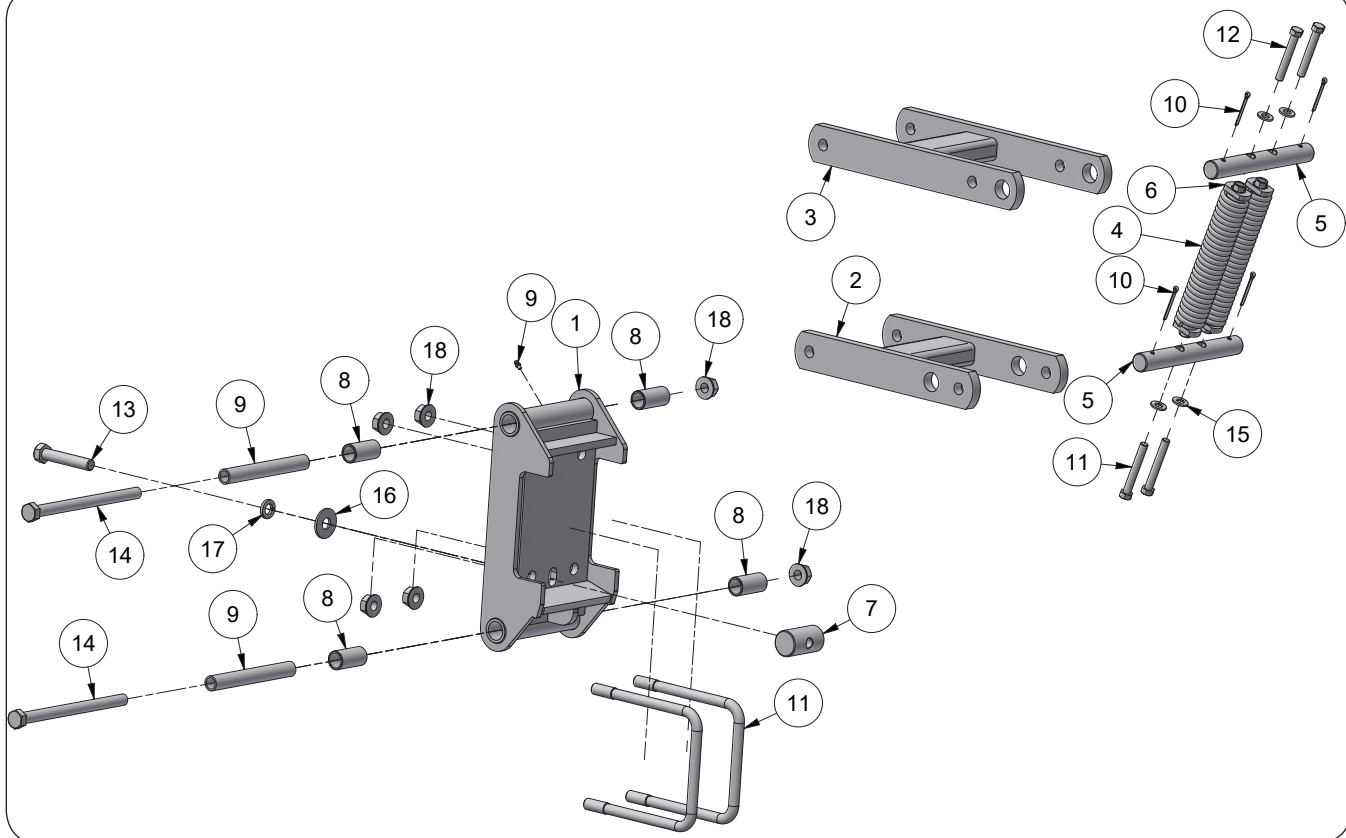


ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	L385-358	Main Frame	1	
2	L385-136	Fork Assmebly	1	
3	L385-168	Scraper	1	
4	L385-327	Brace LH	1	
5	L385-326	Brace, RH	1	
6	L134-067	Bushing	4	
7	L385-132	Bushing	1	
8	L110-001	Grease Fitting, 1/4" NPT	4	
9	L100-150	Capscrew 5/8"-11UNC x 9" Grade 5	1	
10	L100-148	Capscrew 5/8"-11UNC x 8" Grade 5	1	
11	L100-176	Capscrew 3/4"-10UNC x 10 1/2" Grade 8	2	
12	L100-054	Carriage Bolt 1/2"-13UNC x 1"	4	
13	L100-003	Carriage Bolt 5/16"-18UNC x 1"	2	
14	L108-006	Flat Washer 5/16"	2	
15	L108-017	Lock washer 5/16"	2	
16	L102-104	Flange Nut 5/8"-11UNC	2	
17	L102-004	Hex Nut 5/16"-18UNC	2	
18	L102-112	Flange Nut 1/2"-13UNC	4	
19	L102-121	Flanged Lock Nut 3/4"-10UNC	2	

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Mount and Parallel Linkage Components

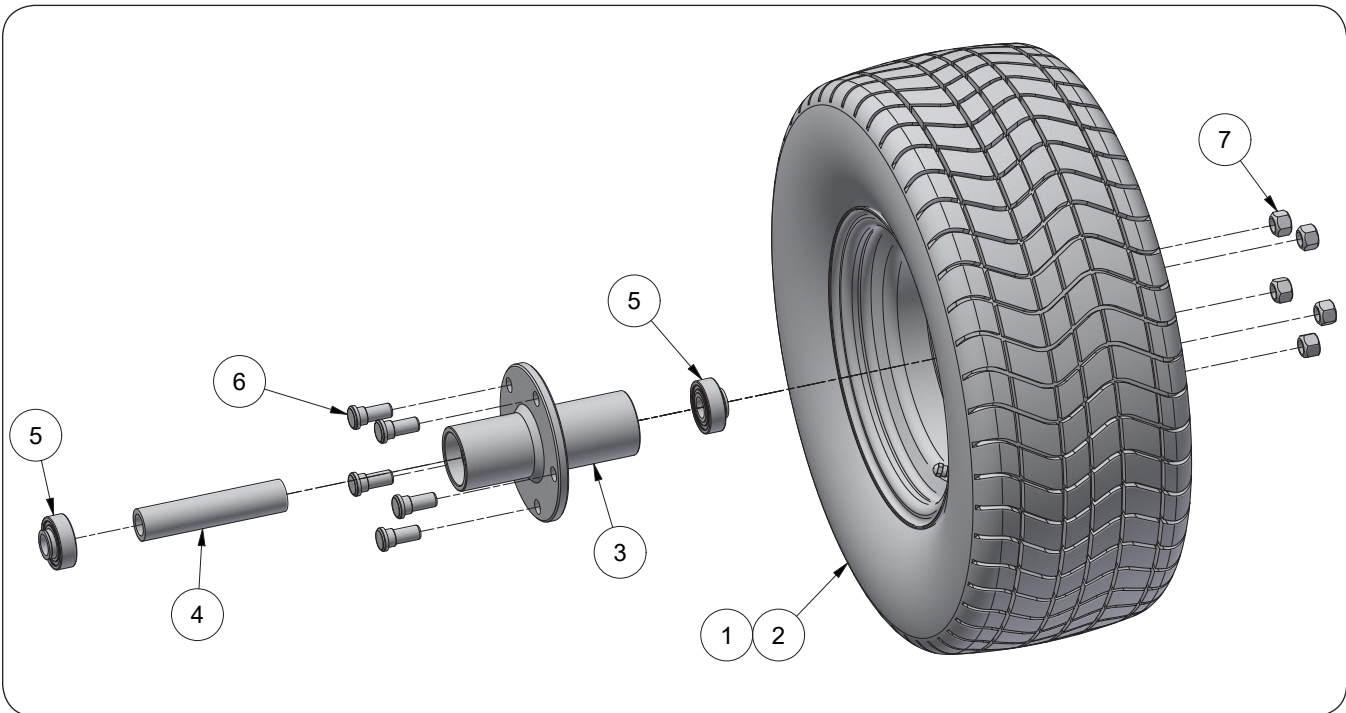
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	L387-522	Mount Assembly	1	Includes Items 1, 7, 8, 11, 13, and 16-18
1	L387-525	Mounting Bracket	1	
2	L385-095	Lower Linkage	1	
3	L385-093	Upper Linkage	1	
4	L311-401	Linkage Spring	2	
5	L385-360	Spring Assmeby Trunnion	2	
6	L340-029	Spring Plug	4	
7	L387-521	Wedge	1	
8	L134-067	Bushing	2	
9	L285-140	Bushing	2	
10	L104-030	Cotter Pin	4	
11	L100-220	Capscrew 1/2"-13UNC x 3 3/4" Grade 5	2	
12	L100-288	Capscrew 1/2"-13UNC x 3 1/2" Grade 5	2	
13	L100-490	Capscrew 3/4"-10UNC x 4" Full Thread	1	
14	L100-176	Capscrew 3/4"-10UNC x 10 1/2" Grade 8	2	
15	L108-001	Flat Washer 1/2" SAE	4	
16	L108-011	Flat Washer 3/4" SAE	1	
17	L108-022	Lock Washer 3/4"	1	
18	L102-121	Flanged Lock Nut 3/4"-10UNC Grade 5	8	

Tire Components

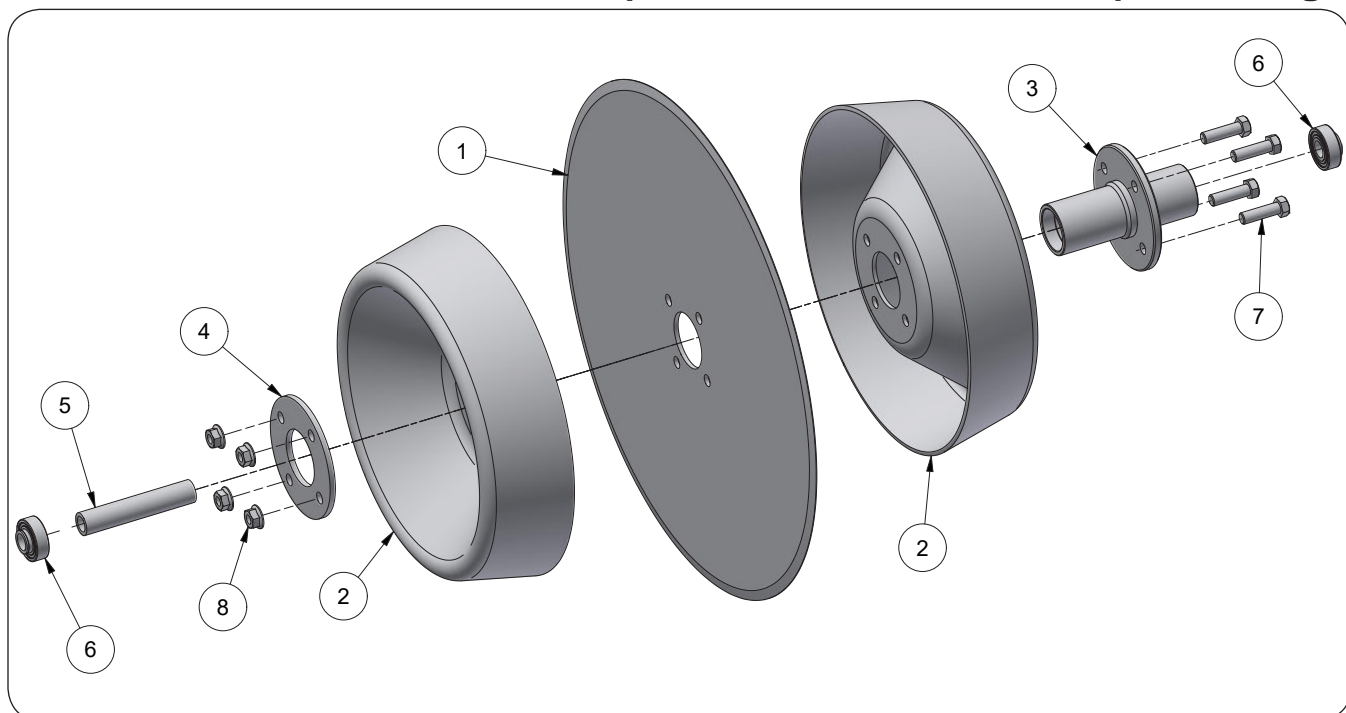
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	L190-035	Wheel and Tire Assembly	1	Includes Items 1 and 2
1	L190-033	Wheel, 10" 6 Lug	1	
2	L192-004	Tire, 20.5" x 8"-10"	1	
3	L315-259	Hub Assembly	1	Includes Items 3-7
4	L315-123	Hub Spacer	1	
5	L315-261	Bearings	2	
6	L100-329	Wheel Bolt, 1/2"-20UNF x 1 1/4"	5	
7	L102-037	Wheel Nut, 1/2"-20UNF	5	

Depth Band Coulter Components

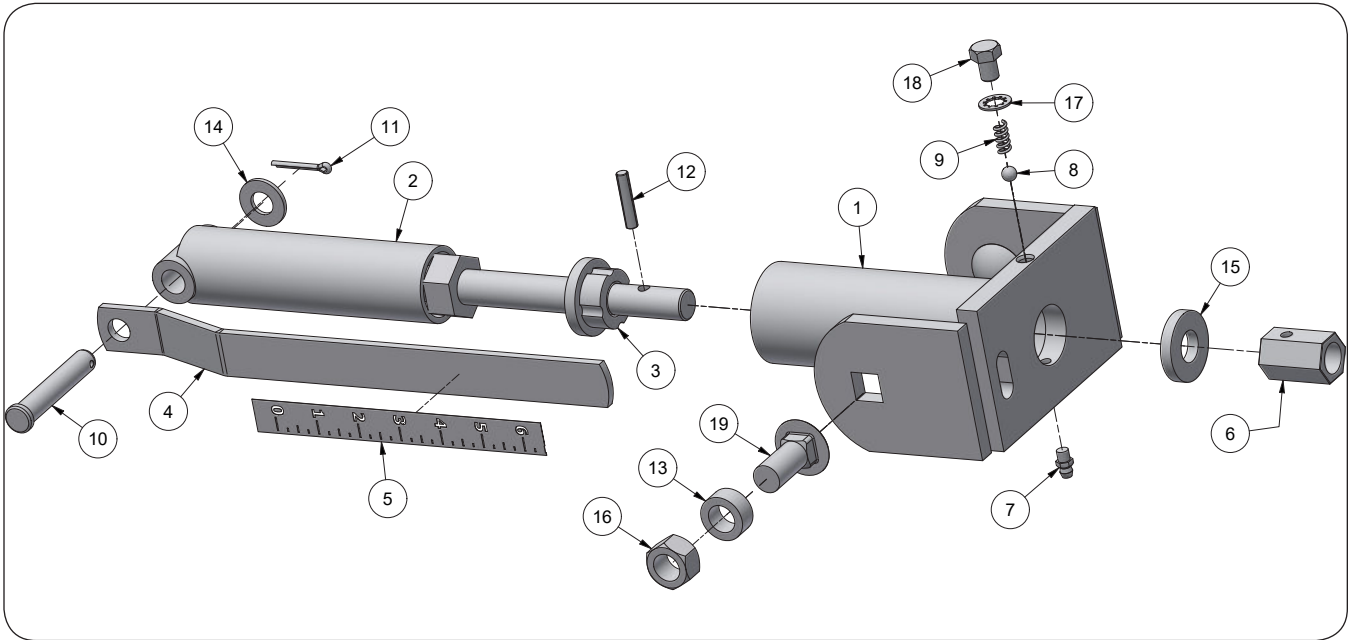
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	L635-027	Depth Band Coulter Assembly	1	Includes Items 1-8
1	L166-033	Smooth Disc, 22"	1	
2	L385-167	Depth Band	2	
3	L312-132	Hub Assembly	1	Includes Items 5 and 6
4	L312-131	Depth Band Washer	1	
5	L315-123	Bearing Spacer	1	
6	L315-261	Bearing	2	
7	L100-117	Capscrew 1/2"-13UNC x 1 3/4" Grade 5	4	
8	L102-119	Flanged Lock Nut 1/2"-13UNC	4	

Depth Adjustment Crack Components

Please visit www.unverferth.com/parts/ for the most current parts listing.



8315 CULTIVATOR — Parts

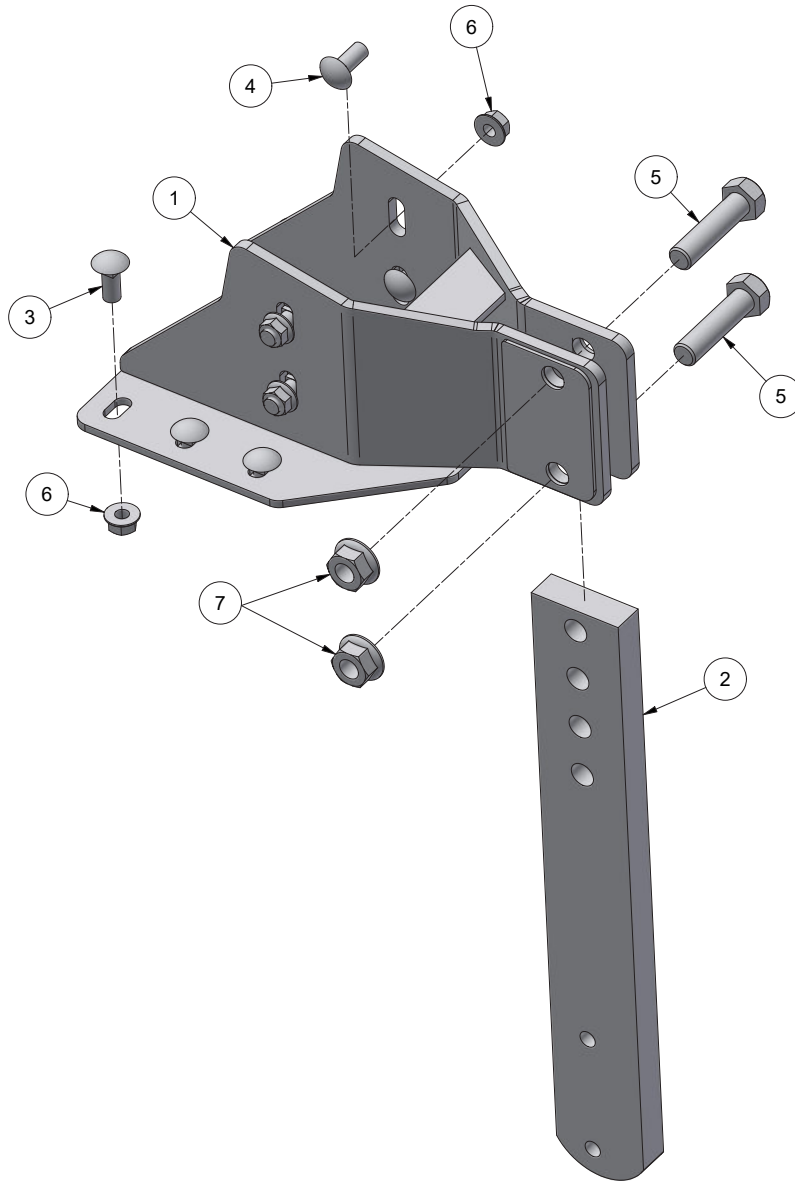
Depth Adjustment Crank Components

Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	L385-001	Adjustment Crank Assembly	1	
1	L385-003	Upper Adjustment Crank	1	
2	L385-007	Lower Adjustment Crank	1	
3	L385-011	Adjusting Crank Screw	1	
4	L385-002	Indicator Strap	1	
5	L153-152	Depth Indicator Decal	1	
6	L313-279	Adjustment Screw Nut	1	
7	L110-004	Grease Fitting	1	
8	L152-400	Ball Bearing 5/16" Dia.	1	
9	L148-055	Spring	1	
10	L104-088	Clevis Pin 1/2" x 2 3/4"	1	
11	L104-047	Cotter Pin 1/8" x 1"	1	
12	L104-198	Grooved Pin 1/4" x 1 1/4"	1	
13	L319-127	Adjustment Screw Bushing	2	
14	L108-001	Flat Washer 1/2" SAE	1	
15	L313-302	Adjustment Screw Washer	1	
16	L102-029	Lock Nut 5/8"-11UNC Grade 2	2	
17	L108-051	Lock Washer, Internal Tooth 3/8"	1	
18	L100-279	Capscrew 3/8"-16UNC x 1/2" Grade 5	1	
19	L100-037	Carriage Bolt 5/8"-11UNC x 1 1/2" Grade 5	2	
20	L313-770	Wrench Assembly	1	Not Shown Includes Items 21 and 22
21	L152-372	Handle Sleeve	1	Not Shown
22	L152-313	Retaining Ring	1	Not Shown
23	L313-767	Handle Mount	1	Not Shown
24	L102-009	Hex Nut 3/4"-10UNC	1	Not Shown
25	L104-104	Lynch Pin	1	Not Shown

Tail and Shank Components

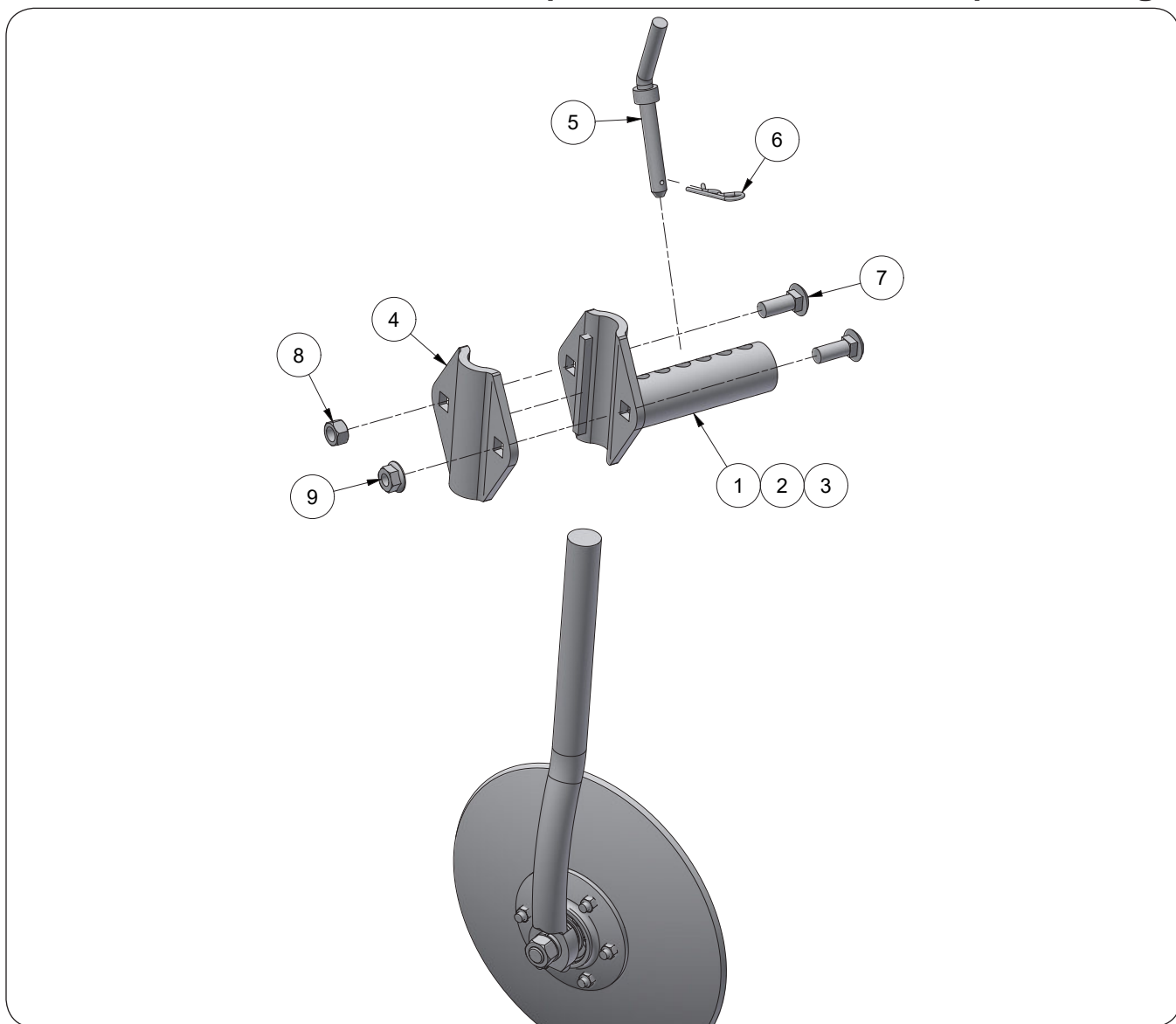
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	L385-580	Tail Assembly	1	
2	L385-406	Shank	1	
3	L100-012	Carriage Bolt 1/2"-13UNC x 1 1/4"	6	
4	L100-057	Carriage Bolt 1/2"-13UNC x 1 1/4" Short Neck	6	
5	L100-160	Capscrew 3/4"-10UNC x 3" Grade 5	2	
6	L102-109	Flange Nut 1/2"-13UNC	8	
7	L102-121	Flanged Lock Nut 3/4"-10UNC	2	

Barring Off Disc Mounting Components

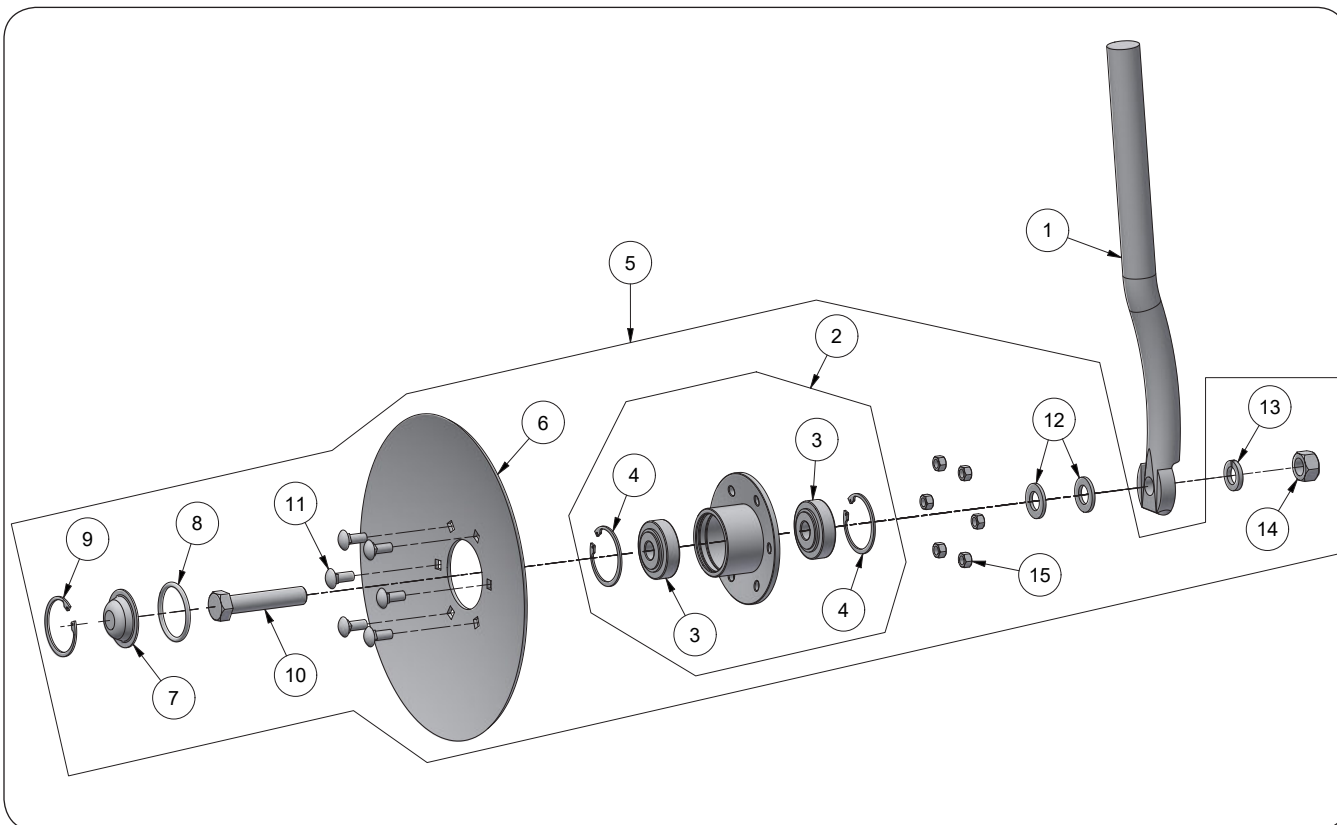
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	L385-419	Cross Tube RH	2	8" Long Tube (For 30" Row Spacing)
	L385-421	Cross Tube LH	2	8" Long Tube (For 30" Row Spacing)
2	L385-415	Cross Tube RH	2	11" Long Tube (For 36" Row Spacing)
	L385-417	Cross Tube LH	2	11" Long Tube (For 36" Row Spacing)
3	L385-353	Cross Tube RH	2	15" Long Tube (For 38" & 40" Row Spacing)
	L385-354	Cross Tube LH	2	15" Long Tube (For 38" & 40" Row Spacing)
4	L313-293	Cap	2	
5	L313-469	Pin	2	
6	L104-094	Hair Pin	2	
7	L100-031	Carriage Bolt 5/8"-11UNC x 1 3/4" Grade 5	4	
8	L102-029	Lock Nut 5/8"-11UNC	2	
9	L102-108	Flange Nut 5/8"-11UNC	2	

Barring Off Disc Components

Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	L385-428	Shank (RH)	1	
	L385-429	Shank (LH)		
2	L312-321	Hub and Bearing Assembly	1	Includes Items 3 and 5
3	L120-070	Bearing	2	
4	L104-105	Snap Ring 2 3/8" ID	2	
5	L601-193	Disc and Hub Assembly	1	Includes Items 6-15
6	L166-005	14" Disc	1	
7	L319-126	Dust Cap	1	
8	L150-018	O-Ring 2 1/2" OD x 3/16"	1	
9	L104-105	Snap Ring 2 3/8" ID	1	
10	L100-202	Capscrew 3/4"-10UNC x 3 3/4" Grade 5	1	
11	L100-008	Carriage Bolt 3/8"-16UNC x 3/4"	6	
12	L108-003	Flat Washer 3/4" SAE	2	
13	L108-022	Lock Washer 3/4"	1	
14	L102-009	Hex Nut 3/4"-10UNC	1	
15	L102-027	Lock Nut 3/8"-16UNC	6	

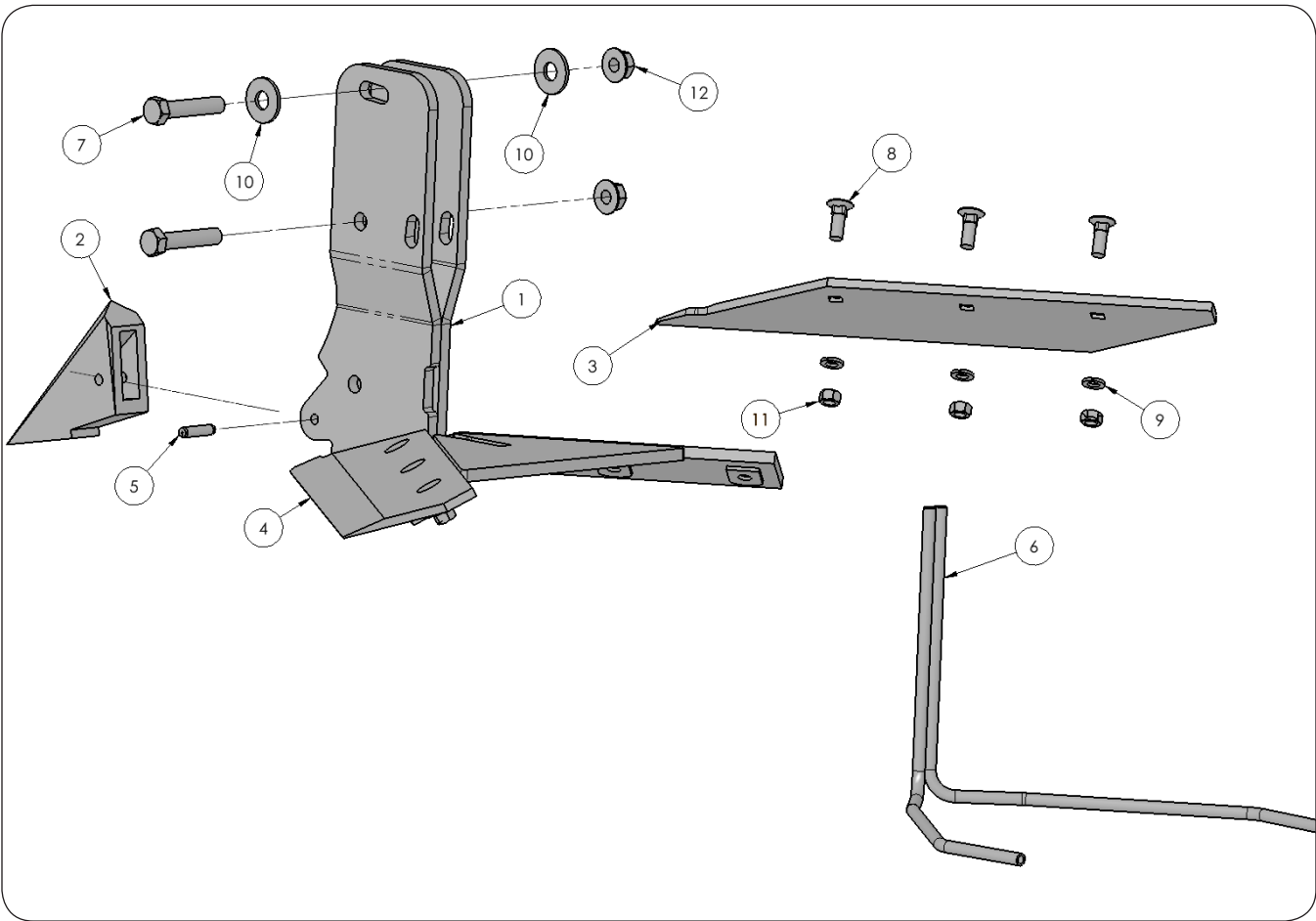
Notes

Please visit www.unverferth.com/parts/ for the most current parts listing.

8315 CULTIVATOR — Parts

Western Sweep Components

Please visit www.unverferth.com/parts/ for the most current parts listing.



8315 CULTIVATOR — Parts

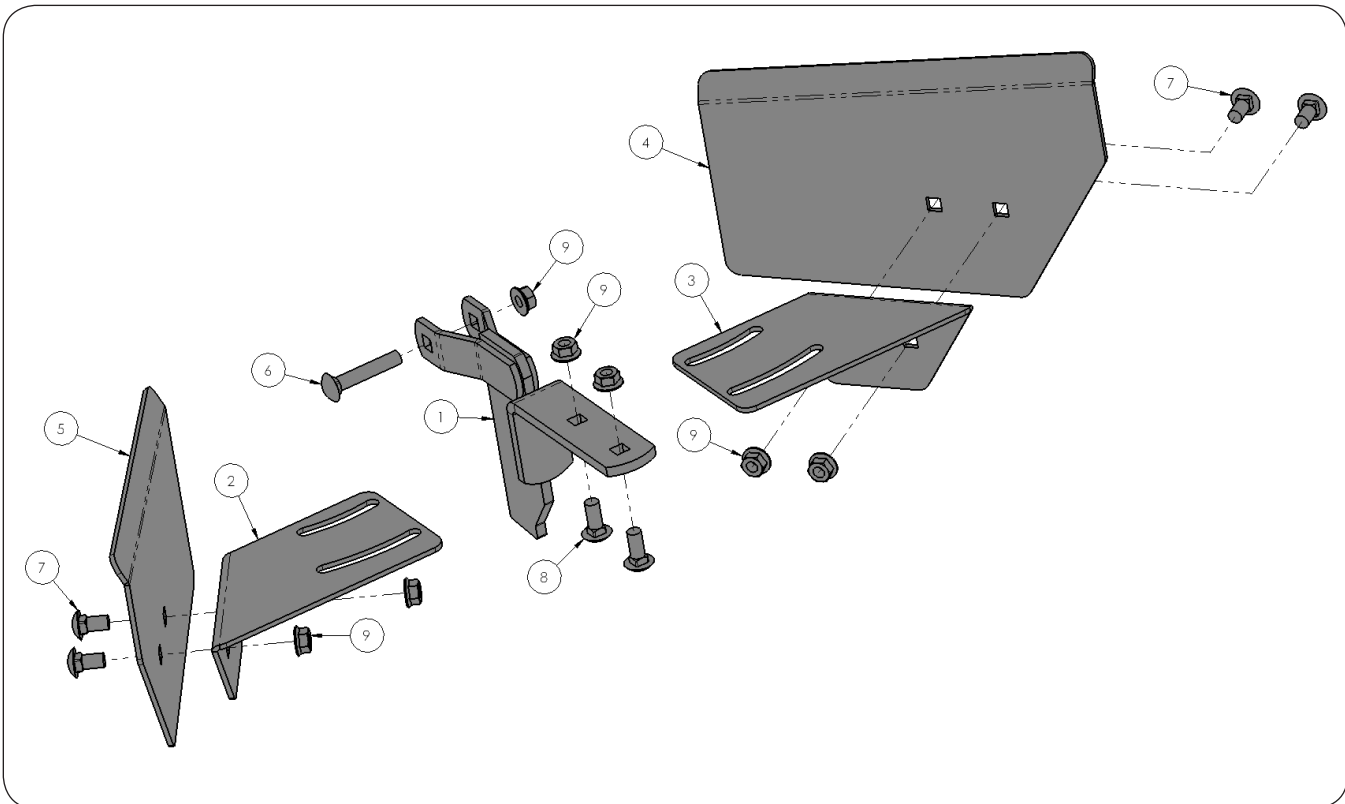
Western Sweep Components

Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	L385-038	Sweep Standard	1	
2	L164-043	Sweep Point	1	
3	L162-202	Blade, 17 1/2" Right Side	1	
	L162-204	Blade, 17 1/2" Hard Faced Right Side		
	L162-206	Blade, 23 1/2" Right Side		
	L162-208	Blade, 23 1/2" Hard Faced Right Side		
	L162-210	Blade, 15 3/4" Right Side		
	L162-212	Blade, 15 3/4" Hard Faced Right Side		
	L162-214	Blade, 18 3/4" Right Side		
	L162-216	Blade, 18 3/4" Hard Faced Right Side		
	L162-218	Blade, 21 3/4" Right Side		
	L162-220	Blade, 21 3/4" Hard Faced Right Side		
	L162-222	Blade, 25 3/4" Right Side		
	L162-224	Blade, 25 3/4" Hard Faced Right Side		
4	L162-203	Blade, 17 1/2" Left Side	1	
	L162-205	Blade, 17 1/2" Hard Faced Left Side		
	L162-207	Blade, 23 1/2" Left Side		
	L162-209	Blade, 23 1/2" Hard Faced Left Side		
	L162-211	Blade, 15 3/4" Left Side		
	L162-213	Blade, 15 3/4" Hard Faced Left Side		
	L162-215	Blade, 18 3/4" Left Side		
	L162-217	Blade, 18 3/4" Hard Faced Left Side		
	L162-219	Blade, 21 3/4" Left Side		
	L162-221	Blade, 21 3/4" Hard Faced Left Side		
	L162-223	Blade, 25 3/4" Left Side		
	L162-225	Blade, 25 3/4" Hard Faced Left Side		
5	L104-039	Roll Pin 5/16" x 1 1/4"	1	
6	L613-890	NH3 Tube Kit	1	
	L613-892			
	L613-896			
7	L100-120	Capscrew 1/2"-13UNC x 2 1/2" Grade 5	2	
8	L100-401	Plow Bolt 3/8"-16UNC x 1 1/4" Grade 5	6	
9	L108-018	Lock Washer 3/8"	6	
10	L108-001	Flat Washer 1/2" SAE	2	
11	L102-005	Hex Nut 3/8"-16 Grade 5	6	
12	L102-119	Flanged Lock Nut 1/2"-13UNC Grade 2	2	

Western Sweep Ridging Wing Components

Please visit www.unverferth.com/parts/ for the most current parts listing.



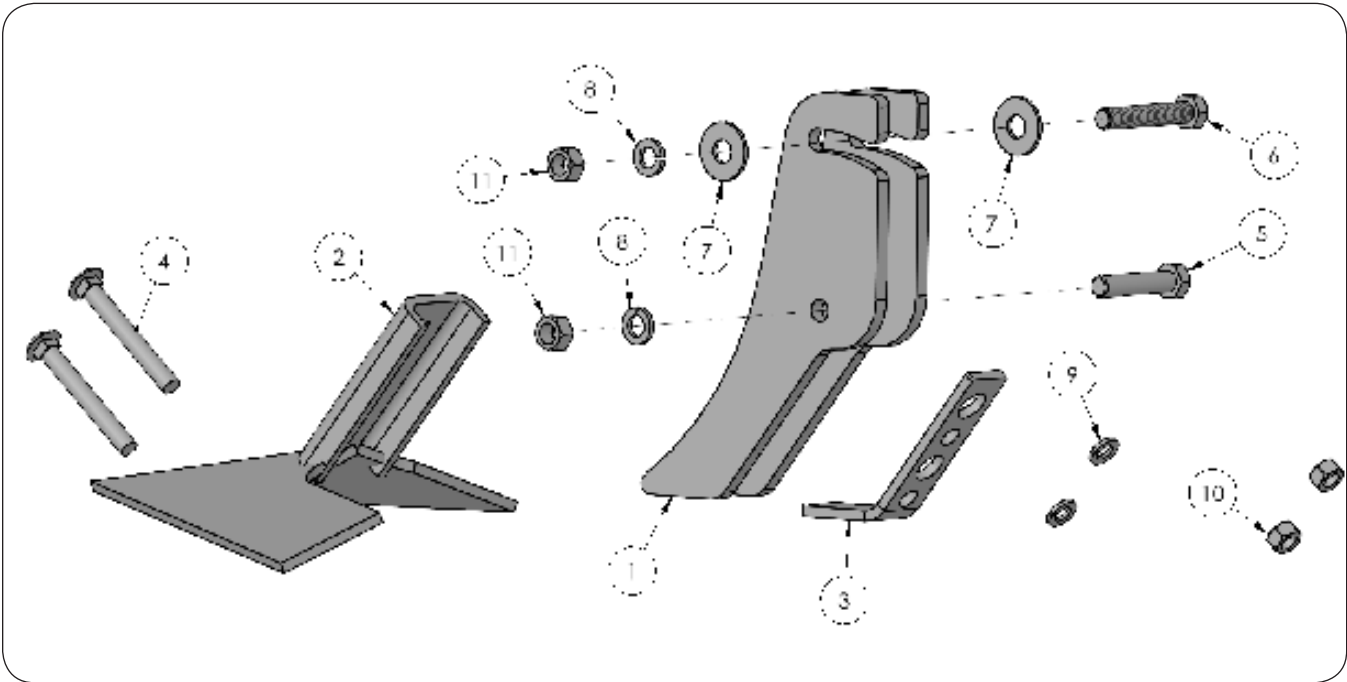
ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	L385-041	Ridging Wing Mount	1	
2	L313-473	Ridging Wing Spreader, Left	1	
3	L313-472	Ridging Wing Spreader, Right	1	
4	L313-475	Ridging Wing, Right	1	
5	L313-476	Ridging Wing, Left	1	
6	L100-042	Carriage Bolt, 1/2"-13UNC x 2 3/4" Grade 5	1	
7	L100-043	Carriage Bolt, 1/2"-13UNC x 1" Grade 5	4	
8	L100-012	Carriage Bolt, 1/2"-13UNC x 1 1/4" Grade 5	2	
9	L102-119	Flanged Lock Nut, 1/2"-13UNC Grade 2	7	

Notes

Please visit www.unverferth.com/parts/ for the most current parts listing.

Single Sweep Components

Please visit www.unverferth.com/parts/ for the most current parts listing.



8315 CULTIVATOR — Parts

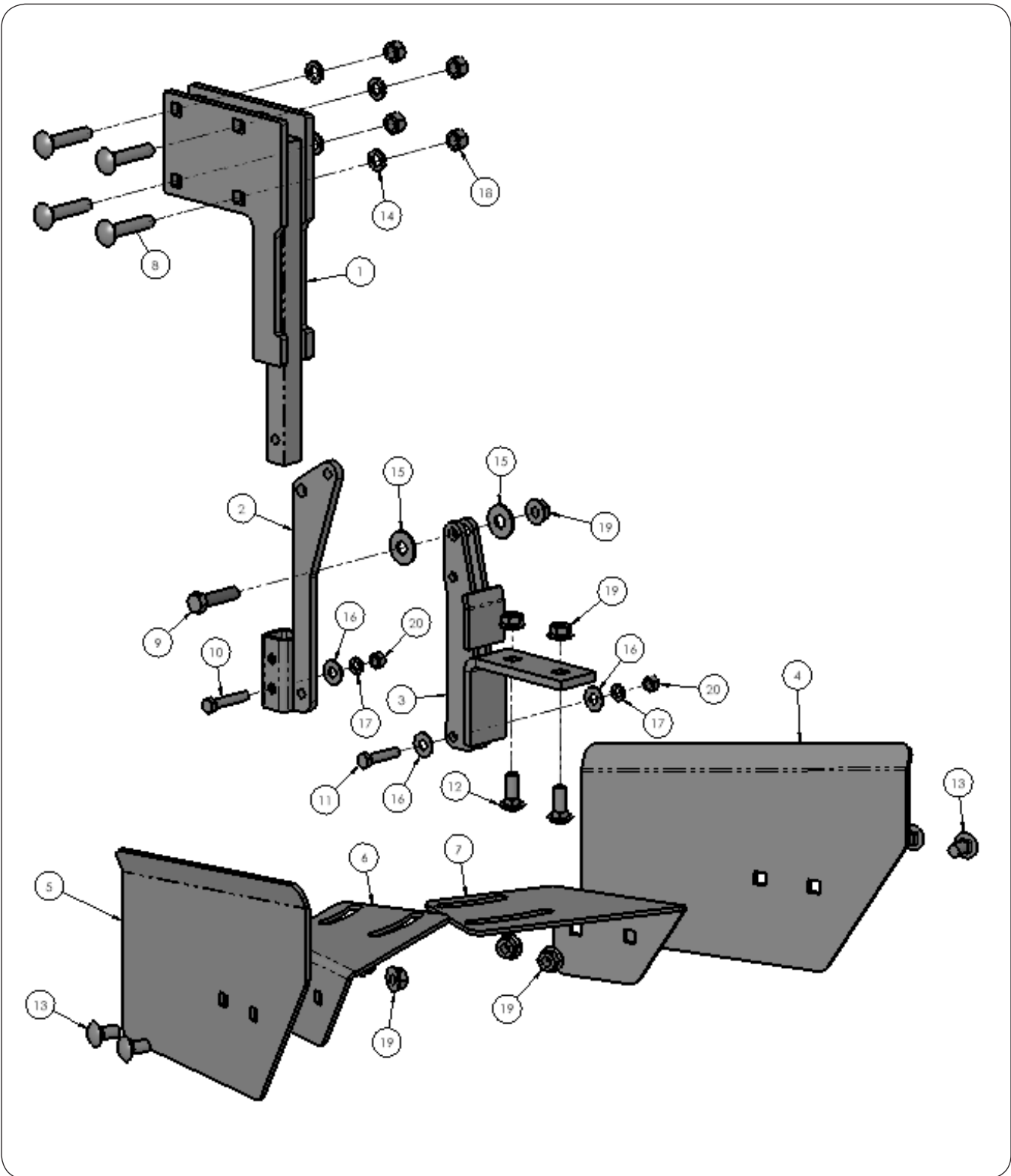
Single Sweep Components

Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	L610-237	Foot Piece, Single Sweep	1	Includes Items 3-9
2	L340-170	Sweep, 16in. Nichols End Right	1	
	L340-172	Sweep, 20in. Nichols End Right		
	L340-174	Sweep, 24in. Nichols End Right		
	L340-180	Sweep, 14in. Nichols End Right		
	L340-182	Sweep, 18in. Piper End Right		
	L340-184	Sweep, 26in. Weise End Right		
	L340-171	Sweep, 16in. Nichols End Left		
	L340-173	Sweep, 20in. Nichols End Left		
	L340-175	Sweep, 24in. Nichols End Left		
	L340-181	Sweep, 14in. Nichols End Left		
	L340-183	Sweep, 18in. Piper End Left		
	L340-185	Sweep, 26in. Weise End Left		
	L162-010	Sweep, 18in. Middle		
	L162-012	Sweep, 14in. Middle		
	L162-016	Sweep, 16in. Middle		
	L162-046	Sweep, 24in. Middle		
	L162-047	Sweep, 20in. Middle		
L162-050	Sweep, 1/4" x 26" Row Crop			
3	L311-352	Heel Plate	1	
4	L100-011	Carriage Bolt, 7-16"-14UNC x 3 1/2" Grade 5	2	
5	L100-120	Capscrew, 1/2"-13UNC x 2 1/2" Grade 5	1	
6	L100-122	Capscrew, 1/2"-13UNC x 3" Grade 5	1	
7	L108-009	Flat Washer, 1/2"	2	
8	L108-020	Lock Washer, 1/2"	2	
9	L108-019	Lock Washer, 7/16"	2	
10	L102-006	Hex Nut, 7/16"-14UNC	2	
11	L102-007	Hex Nut, 1/2"-13UNC	2	

Single Sweep Ridging Wing Components

Please visit www.unverferth.com/parts/ for the most current parts listing.



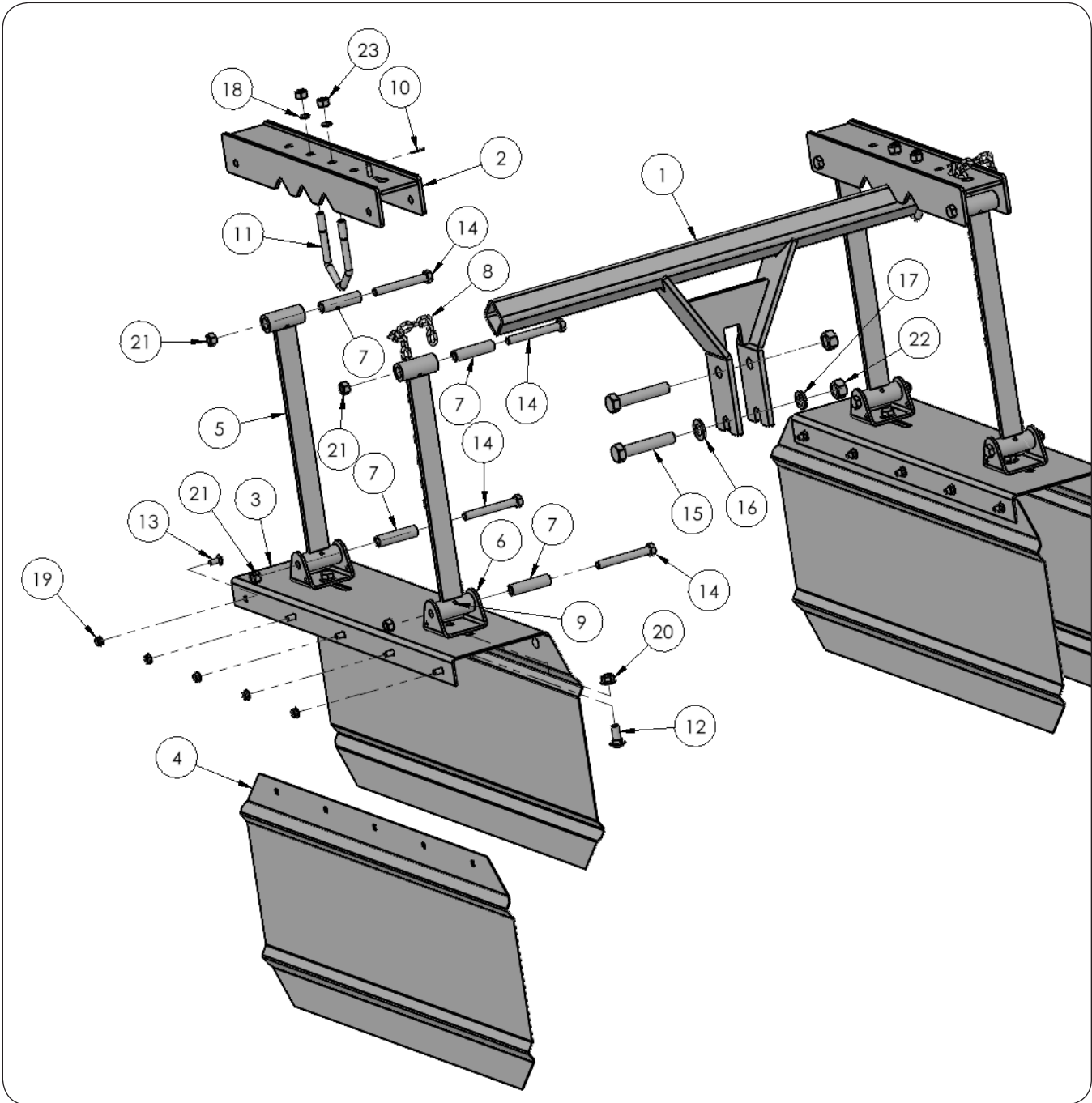
Single Sweep Ridging Wing Components

Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	L311-491	Ridging Wing Assembly	1	
1	L311-353	Attachment Bracket	1	
2	L313-482	Center Adjuster	1	
3	L313-483	Mount Adjuster	1	
4	L313-475	Ridging Wing, Right	1	
5	L313-476	Ridging Wing, Left	1	
6	L313-473	Ridging Wing Spreader, Left	1	
7	L313-472	Ridging Wing Spreader, Right	1	
8	L100-016	Carriage Bolt, 1/2"-13UNC x 2 1/2" Grade 5	4	
9	L100-118	Capscrew, 1/2"-13UNC x 2" Grade 5	1	
10	L100-300	Capscrew, 3/8"-16UNC x 2" Grade 5	1	
11	L100-110	Capscrew, 3/8"-16UNC x 1 3/4" Grade 5	1	
12	L100-012	Carriage Bolt, 1/2"-13UNC x 1 1/4" Grade 5	2	
13	L100-043	Carriage Bolt, 1/2"-13UNC x 1" Grade 5	4	
14	L108-020	Lock Washer, 1/2"	4	
15	L108-009	Flat Washer, 1/2"	2	
16	L108-007	Flat Washer, 3/8"	3	
17	L108-018	Lock Washer, 3/8"	2	
18	L102-007	Hex Nut, 1/2"-13UNC Grade 5	4	
19	L102-119	Flanged Lock Nut, 1/2"-13UNC Grade 2	6	
20	L102-005	Hex Nut, 3/8"-16UNC Grade 2	2	

Closed Top Fenders Components

Please visit www.unverferth.com/parts/ for the most current parts listing.



8315 CULTIVATOR — Parts

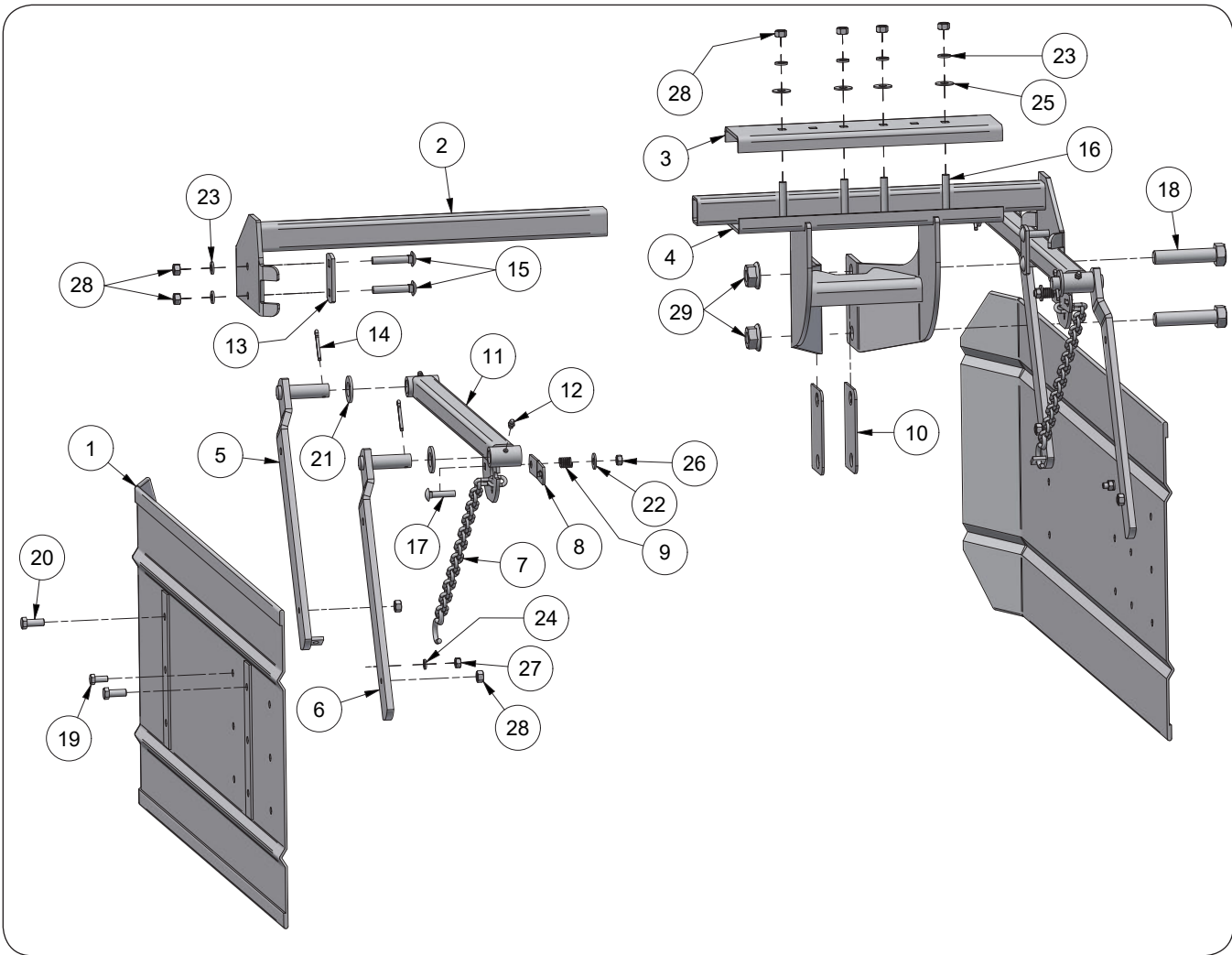
Closed Top Shields Components

Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	L385-424	Fender Assembly Mount	1	
2	L385-431	Fender Assembly Top Channel	2	
3	L385-442	Fender Top Panel	2	
4	L385-443	Fender Side Panel	4	
5	L385-436	Fender Assembly Arm	4	
6	L385-440	Fender Arm Mount Bracket	4	
7	L385-439	Fender Arm Bushing	8	
8	L312-656	Adjustment Chain	2	
9	L110-001	Grease Fitting	8	
10	L104-127	Hair Pin	2	
11	L115-113	U-Bolt, 2"x2"	2	
12	L100-043	Carriage Bolt, 1/2"-13UNC x 1" Grade 5	4	
13	L100-077	Carriage Bolt, 5/16"-18UNC x 3/4" Grade 5	20	
14	L100-212	Capscrew, 1/2"-13UNC x 4" Grade 5	8	
15	L100-163	Capscrew, 3/4"-10UNC x 4" Grade 5	2	
16	L108-003	Flat Washer, 3/4" SAE	1	
17	L108-022	Lock Washer, 3/4"	2	
18	L108-020	Lock Washer, 1/2"	4	
19	L102-107	Flange Nut, 5/16"-18UNC Grade 2	20	
20	L102-109	Flange Nut, 1/2"-13UNC Grade 5	4	
21	L102-028	Lock Nut, 1/2"-13UNC Grade 2	8	
22	L102-009	Hex Nut, 3/4"-10UNC Grade 5	2	
23	L102-007	Hex Nut, 1/2"-13UNC Grade 5	4	

Open Top Fenders Components

Please visit www.unverferth.com/parts/ for the most current parts listing.



8315 CULTIVATOR — Parts

Open Top Shields Components

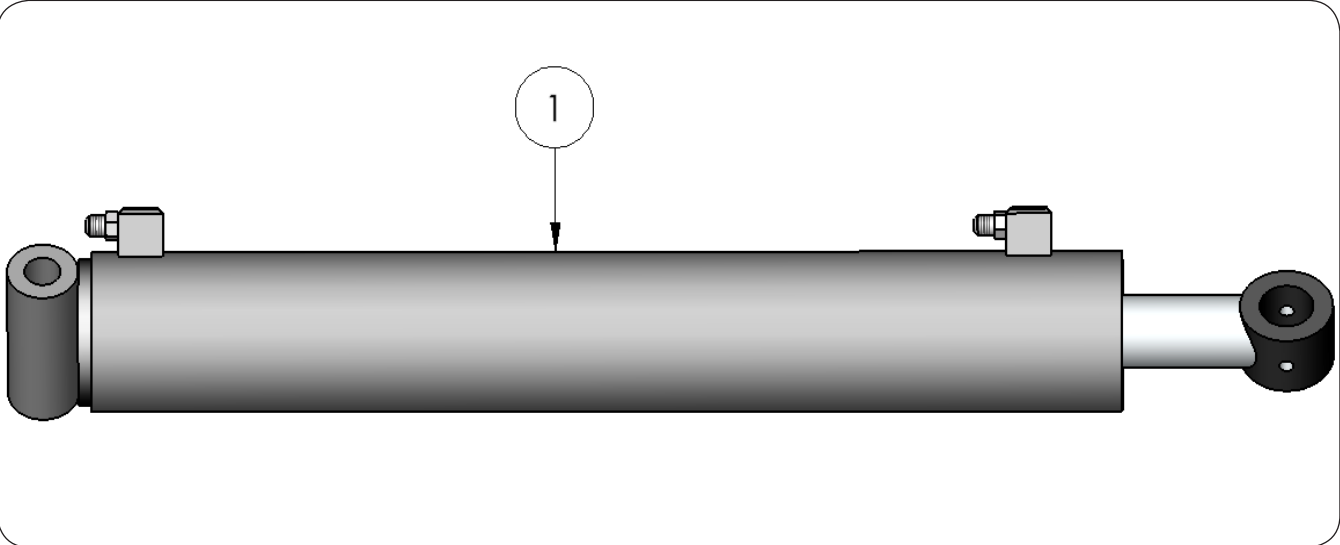
Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	L312-785	Fender	2	
2	L312-638	Cross Tube	2	
3	L312-655	Mounting Bracket Cap	1	
4	L385-787	Fender Mount	1	
5	L312-774	Rear Swing Arm	2	
6	L312-773	Front Swing Arm	2	
7	L312-646	Chain and Hook Assembly	2	
8	L312-775	Chain Lock Strap	2	
9	L148-050	Spring	2	
10	L385-585	Shim	2	
11	L312-777	Mount Tube	2	
12	L110-001	Grease Fitting	4	
13	L312-652	Connector Strap	2	
14	L104-024	Cotter Pin 5/32" x 1 1/4"	4	
15	L100-048	Carriage Bolt 3/8"-16UNC x 2 1/4" Grade 5	4	
16	L100-007	Carriage Bolt 3/8"-16UNC x 2 1/2" Grade 5	4	
17	L100-053	Carriage Bolt 5/16"-18UNC x 1 1/2" Grade 8	2	
18	L100-162	Capscrew 3/4"-10UNC x 3 1/2" Grade 5	2	
19	L100-100	Capscrew 5/16"-18UNC x 3/4" Grade 5	2	
20	L100-107	Capscrew 3/8"-16UNC x 1" Grade 5	4	
21	L108-003	Flat Washer 3/4" SAE	4	
22	L108-006	Flat Washer 5/16"	2	
23	L108-018	Lock Washer 3/8"	8	
24	L108-017	Lock Washer 5/16"	2	
25	L108-007	Flat Washer 3/8"	4	
26	L102-094	Lock Nut 5/16"-18UNC	2	
27	L102-004	Hex Nut 5/16"-18UNC	2	
28	L102-005	Hex Nut 3/8"-16UNC	8	
29	L102-121	Flanged Lock Nut 3/4"-10UNC	2	

8315 CULTIVATOR — Parts

Hydraulic Cylinder

Please visit www.unverferth.com/parts/ for the most current parts listing.



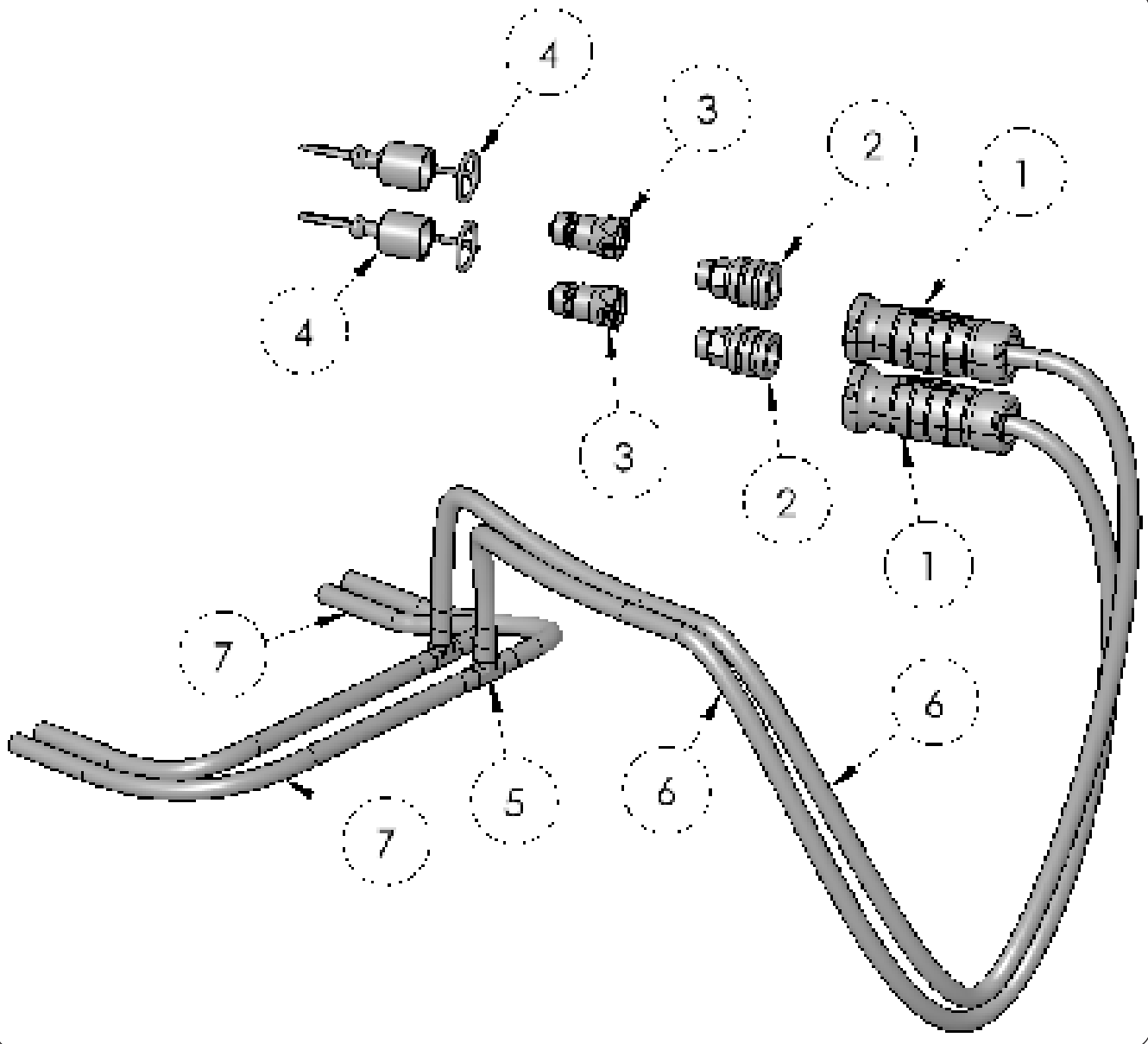
ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	L194-499	Hydraulic Cylinder, 4" x 24"	2	
1A	L194-440	Hydraulic Cylinder Seal Kit	1	

Notes

Please visit www.unverferth.com/parts/ for the most current parts listing.

Hydraulic Components

Please visit www.unverferth.com/parts/ for the most current parts listing.



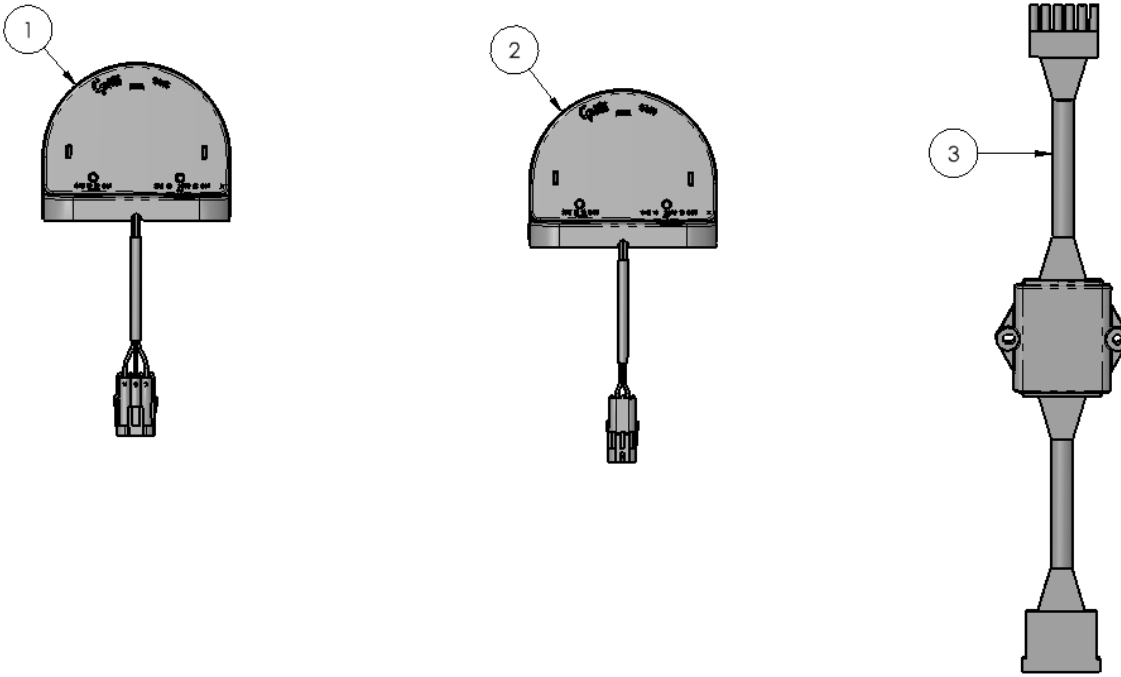
Hydraulic Components

Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	L198-221	Hydraulic Hose Grip	2	
2	L198-313	Hydraulic Hose Tip Adapter	2	
3	L140-029	Hydraulic Hose Tip, 3/4" O-Ring	2	
4	L152-710	hydraulic Hose Tip Cover	2	
5	L198-203	T Fitting, 9/16" x 9/16" x 9/16"	2	
6	L196-563	Hydraulic Hose, 60"	4	1/4" - 9/16" FJX x 9/16" FJX
7	L302-897	Hydrauliuc Hose, 36"	4	1/4" - 9/16" FJX x 9/16" FJX
	L301-464	Hydrauliuc Hose, 48"	4	1/4" - 9/16" FJX x 9/16" FJX
	L196-111	Hydrauliuc Hose, 60"	4	1/4" - 9/16" FJX x 9/16" FJX
	L196-112	Hydrauliuc Hose, 72"	4	1/4" - 9/16" FJX x 9/16" FJX
	L196-140	Hydrauliuc Hose, 84"	4	1/4" - 9/16" FJX x 9/16" FJX
	L196-113	Hydrauliuc Hose, 96"	4	1/4" - 9/16" FJX x 9/16" FJX
	L196-141	Hydrauliuc Hose, 108"	4	1/4" - 9/16" FJX x 9/16" FJX
	L196-114	Hydrauliuc Hose, 120"	4	1/4" - 9/16" FJX x 9/16" FJX
	L196-118	Hydrauliuc Hose, 132"	4	1/4" - 9/16" FJX x 9/16" FJX
	L196-119	Hydrauliuc Hose, 144"	4	1/4" - 9/16" FJX x 9/16" FJX
	L196-454	Hydrauliuc Hose, 156"	4	1/4" - 9/16" FJX x 9/16" FJX
	L196-165	Hydrauliuc Hose, 168"	4	1/4" - 9/16" FJX x 9/16" FJX

Light Kit Components

Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	L154-1001	Red Light	2	
2	L154-1000	Yellow Light	2	
3	L154-1007	Light Harness	1	
4	L154-1020	Light Harness, 13'	2	Not Shown
5	L154-1005	Light Harness	1	Not Shown
6	L154-1010	Light Harness	1	Not Shown

Notes

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