



Heartland
AG SYSTEMS

Heartland Agriculture, LLC

NITROMASTER
TOOLBAR
3000 SERIES

OWNERS MANUAL
ASSEMBLY INSTRUCTIONS
AND PARTS LIST
OM-3000

HEARTLAND AG SYSTEMS
1180 STATE HWY 7 EAST
HUTCHINSON, MN. 55350
(320) 587-4030

ISSUE
JULY 2023



WARRANTY REGISTRATION

TO THE DEALER:

Inspect the implement thoroughly after assembly to be certain it is functioning properly before delivering it to the customer. Check off each item as it is found satisfactory or after proper adjust is made.

PRE -DELIVERY CHECKLIST

- _____ 1. All hardware properly tightened.
- _____ 2. Lubrication of grease fittings.
- _____ 3. All decals properly located and readable.
- _____ 4. Other adjustments, "level operation", "drawbar height", etc.
- _____ 5. Proper tongue weight after all options are mounted. Adjustments made if required.
- _____ 6. Overall condition. Touch-up paint any scratches. Clean and polish
- _____ 7. Operator's manual.

Review the operator's manual with the customer. Explain the following:

- _____ 1. Safe operation and service
- _____ 2. Correct machine installation and operation.
- _____ 3. Correct and periodic lubrication and maintenance.
- _____ 4. Daily and periodic inspection.
- _____ 5. Troubleshooting.
- _____ 6. Storing machine.
- _____ 7. Heartland AG Systems parts and service
- _____ 8. Have the customer write the machine model and serial number in the space provided in the manual introduction
- _____ 9. Give the customer the operator's manual and encourage the customer to read the manual carefully.

Seller Information	
Date set-up	_____
Signature	_____
Dealer name	_____
Address	_____
City, state, zip	_____
Phone	_____

Customer Information	
Date delivered	_____
Customer name	_____
Customer address	_____
Signature	_____
Model number	_____
Serial number	_____

PLEASE FILL OUT THIS SHEET AND RETURN TO HEARTLAND AG SYSTEMS
 1180 State Highway 7 East Hutchinson, MN 55350
www.heartlandag.com | Heartland Agriculture, LLC dba Heartland AG Systems



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3000CNT08

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TO THE OWNER

This manual has been prepared to assist you in the assembly of your new equipment and contains information pertaining to safety, operating information and all its parts.

Our personnel in sales and service are always available to assist you when questions arise concerning the assembly and operation of your machine.

When ordering parts, please refer to part numbers and descriptions as listed throughout this book. All parts and whole goods will be shipped FOB Hutchinson, Minnesota. Always check merchandise immediately upon receipt for damage or shortage. Note any discrepancy on the carrier's bill of lading and notify Heartland AG Systems within 10 days.

Any returned goods will be subject to a 20 percent restocking charge.

Heartland AG Systems reserves the right to make improvements and modifications on equipment without obligation to change previously built equipment. All prices are subject to change without notice.

Warranty Policies and Terms

The Heartland Agriculture, LLC warranty is a limited warranty that is provided to the retail purchaser in return for consideration paid as part of the purchase price for a product. The selling dealer must review the warranty coverage with the retail purchaser and obtain a signature on the Operators Manual for warranty verification.

The warranty described here is for Heartland Agriculture, LLC doing business as Heartland AG Systems and its product line Heartland AG Systems Equipment sold and registered in the United States and Canada and normally operated in the United States and Canada.

Warranty Period

The warranty period for all coverage begins at the time that any person, dealer or agent first places the unit into service. At the latest, a unit is placed into service when purchased or delivered to a purchaser.

What's Covered

If a defect in material or workmanship is found in a unit and reported during the Warranty period, Heartland AG Systems will pay parts and labor costs to repair the defects if the services are performed by an authorized Heartland AG Systems dealer. If parts are needed during the repair, Heartland AG Systems will, at its option, use genuine Heartland AG Systems, or remanufactured parts.

Heartland AG Systems provides no warranty, express or implied, for a component or other item that is separately warranted to the purchaser by its manufacturer, such as tires. Check with your local dealer for these details.

Exclusive Remedy

The remedy of repairing a defect in material or workmanship at a Heartland AG Systems dealership under the terms of this warranty is the purchaser's exclusive remedy and is in lieu of any other remedy otherwise available.

No Modification or Extension of Warranty

The Heartland AG Systems Warranty is limited to the written terms in the warranty statement. Heartland AG Systems does not authorize any person, dealer, or agent to change or extend the terms of this warranty in any manner. Any assistance to the purchaser in the repair or operation of any Heartland AG Systems product outside the terms or limitations or exclusions of this warranty will not constitute a waiver of the terms, limitations or exclusions of this warranty, nor will such assistance extend or re-establish the warranty.

The warranty is void if the unit is used in an application for which it is not designed or the unit has been scrapped, salvaged, stolen, junked or totaled.

Limitations and Exclusions

The Heartland AG Systems warranty gives you specific legal rights and you may also have other rights, which vary from state to state. This section contains the entire Heartland AG Systems warranty. Heartland AG Systems makes no other representations or warranties, expressed or implied, and specifically excludes the implied warranties of merchantability and fitness for particular purpose. Heartland AG Systems will not be liable for incidental or consequential damages resulting from a breach of the written warranty or any implied warranty.

- These limitations and exclusions may not be allowed by some states or provinces and shall not apply to the extent such limitations or exclusions are not allowed by applicable state/provincial law.

Owner's Responsibility

The Heartland AG Systems Warranty remains in effect during the warranty period if the owner performs the required maintenance at the recommended intervals outlined in the product's operator's manual and the unit is operated within its rated capacity. Genuine Heartland AG Systems service parts or Heartland AG Systems approved service parts that meet Heartland AG Systems specifications must be used for maintenance and repairs.

What Is Not Covered

- Replacement of non-defective wear items expected to be replaced during the warranty period, including, but not limited to: lights, fuses, belts, drive sprockets and chains, hose, soil engaging tools, spray tips, fertilizer deflectors, spinner blades and accessories or items replaced due to customer demand.
- Normal maintenance parts and service, including, but not limited to lubrication, coolants, and filters.
- All travel costs associated with hauling or towing a customer's machine to and from a repair center related to any warranty repair unless specifically covered by a program or policy.
- Repairs arising from any unauthorized modification to the product.
- Repairs arising from service performed by agents not approved by Heartland AG Systems.
- Repairs arising from storage deterioration, failure to maintain the equipment, improper use of the equipment, collision or other accident, vandalism, or other casualty, or operation beyond the rated capacity or specifications.
- Repairs arising from abuse or neglect including, but not limited to operation without adequate lubricants or coolant, over-speeding, contaminated fluids, improper storage, starting, warm-up, or shutdown practices.
- Failure of the machine, its implements or attachments caused by improper field application or overloading.
- Premiums charged for over-time labor costs.
- Economic loss, including lost profits, crop loss, equipment rental or other expenses.
- Cost associated with cleaning of machine in preparation for service.
- Loss or damage during shipment.

- Cost of initial setup or installation of any optional equipment or attachments to a unit.
- Items used for repairs include, but are not limited to: solvents, cleaners, anti-seize lubricants, oil-dry, shop towels, shop supplies, special tools, etc.
- Included, but not limited to are checkups, adjustments, and shimming, tune-ups, spread pattern checks, etc.
- Unauthorized modification or field fixes.
- All costs of special tools or shop supplies incurred with repairs.
- Claims for stolen equipment or parts.
- Claims for replacing a complete assembly when the repair is less than the replacement.
- Claims involving the inspection or reconditioning of units.
- Shop comebacks: any duplicate, repeat, or comeback repair resulting from improper diagnosis, testing, or poor service work.
- Cost of removing or installing Non-Heartland AG Systems optional equipment or attachments.

Base Warranty Coverage

- Base Warranty is the factory warranty provided to the customer at no additional cost for a specific period covering the complete machine.

- Liquid Applicators, except tires 1 Year
- Spreaders and Tenders, except tires 1 Year
- Nh3 Wagons, except tires 1 Year
- Bumper Hitches 1 Year
- Disc Covers 1 Year
- Parts 90 Days
- Tandem Wagons (except tires and main frame) 1 year
 - o Tandem Wagon main frame 5 Years
- Nitromaster Toolbars shall carry the following pro-rated warranty:
 - o Year one, all components except tires 100%
 - o Year two, center section and wings 80%
 - o Year three, center section and wings 50%
 - o Year four, center section and wings 25%
 - o Year five, center section and wings 10%

Tires

Tires installed on all Heartland AG Systems Equipment are warranted and serviced by their manufacturer's service outlets. Some manufacturers have separate service outlets for off road agricultural and construction equipment. Service is available by contacting the tire manufacturer's local representative.

Warranty Registration

All machinery items, which are invoiced by Heartland AG Systems on separate receivables, must be registered for warranty. The warranty period for all coverage begins at the time that any person, dealer, or agent first places the unit into service. New machine warranty coverage begins when the machine is registered. Registration is accomplished when a properly completed Warranty Registration is received and processed by Heartland AG Systems.

Operator's Manual/Warranty Receipt Verification

The Heartland AG Systems New Equipment Limited Warranty for Agricultural Equipment statement must be filled out and signed by the customer indicating receipt and an understanding of the operator's manual and the warranty statement,

- The original form must be mailed to the address on the form.
- Make one copy for the Dealer. This copy must be retained by your dealership the same as any other legal document.
- Make a second copy for the customer.

Heartland AG Systems Responsibility

If a defect in material or workmanship is found in a product during its warranty period, Heartland AG Systems will pay parts and labor costs to repair the defect when the service is performed by an authorized Heartland AG Systems dealer or agent. If parts are needed during the repair, Heartland AG Systems will, at its option, use genuine Heartland AG Systems new or remanufactured parts. These responsibilities include, but are not limited to:

- Costs for repairs that are the result of defects in material and workmanship
- Payment to dealers per policy in a timely manner
- Service information to dealers
- Identify product deficiencies and take corrective action by field campaigns
- Make determination of premature wear
- Provide unit that is free of defects in material & workmanship

Dealer Responsibility

Heartland AG Systems dealers are responsible for providing prompt, courteous, and willing service to all Heartland AG Systems equipment owners. These responsibilities include but are not limited to:

- Equipment set-up and pre-delivery
- Sell the right product for the intended application
- Inspect the unit and initiate recovery action on any shipping damage and or shortages
- Instruct customer on proper use, maintenance, and safety features of machine
- Advise and explain warranty coverage to customer
- Diagnose the problem, repair the unit, and submit claims in accordance with the terms and conditions of the warranty claim policies
- Take responsibility for saying "NO" to customers on non-warranty failures
- Apply failure analysis to questionable repairs
- Complete product update campaigns
- Have properly trained technicians and adequate tools for the job
- Retain proper documentation of failure repaired

Owners Responsibility

The Heartland AG Systems warranty remains in effect during the stated warranty period if the owner performs the required maintenance at the recommended times as outlined in the products operator's manual. Genuine Heartland AG Systems or Heartland AG Systems approved service parts must be used for maintenance. Additionally, the owner will pay for all transportation or travel expenses related to any warranty repair.

These responsibilities include, but are not limited to:

- Perform maintenance as indicated in the operator's manual
- Use the unit in the correct application (non-abusive)
- Notify dealer of failures and have the machine available for repair in a timely manner
- Training operators
- Travel cost, towing charges, and service calls
- Normal wear items
- Machine damage (accidental)
- Adjustments for application
- Machine inspection (daily walk-around)

Warranty Eligibility

The dealer is responsible to determine that any Heartland AG Systems equipment is covered by Heartland AG Systems warranty before performing a repair and that the repair is a warrantable failure. Any dealer who is in doubt of the equipment's warranty eligibility may call Heartland AG Systems for verification.

Warranty Repairs Made by the Customer

If a Heartland AG Systems dealer determines that the customer is capable, and the customer requests permission to perform select(warranty)repairs on his product, the Heartland AG Systems dealer is authorized to grant this customer request. The servicing dealer should provide the parts to the customer upon request, and to assure that customer is properly instructed on how to perform the repairs correctly.

The servicing dealer is responsible and accountable for claim accuracy and validity; specifically, in areas such as the parts replaced date, and assurances that the parts are installed as instructed by Heartland AG Systems. The comments section of the claim should clearly state that the customer installed the parts. The claim reimbursement will be for parts and applicable handling only. No labor is allowed! All replacement parts must be held for possible recall.

Parts Shortages on Whole-Goods

Dealers may submit a claim for parts shortages discovered during pre-delivery or during final assembly at the dealer's location. All claims for shortages must be submitted 5 days from the original ship date from the plant and before the warranty start date.

Warranty Reimbursement Policies

Heartland AG Systems provides for warranty reimbursement due to defects in material or workmanship only. Warranty does not include restoring any machine or portion thereof, which has accumulated hours of operation, to factory new condition. This includes customer owned and used equipment.

Except for only a few items not available through Heartland AG Systems, all Heartland AG Systems manufactured equipment warranty repairs must be performed using only Heartland AG Systems genuine new or remanufactured parts and accessories. Installation of non-Heartland AG Systems parts does not qualify for warranty reimbursement and can void the machine's warranty.

Parts

It is fully expected that all claims be filed using part numbers from the applicable Heartland AG Systems equipment parts book whenever such part number exists. Heartland AG Systems shall reimburse the dealer at the dealer net price (cost) in effect on the parts replaced date.

Labor

Heartland AG Systems shall reimburse the dealer at 80% of the dealer's posted retail shop labor rate. The retail shop labor rate shall be subject to verification by Heartland AG Systems from copies of actual dealer invoices to customers.

Outside Charges

Specialized repair such as that done by a machine shop will be accepted as part of a warranty claim at actual cost. Explain the parts used and the service work performed in the description section of the claim and retain a copy of the receipt. Retain a copy of the invoice with the shop work order to support the claim. Outside repairs that exceed the cost of the same repair, if performed by the dealer, will be reimbursed at a lower rate.

Freight



Heartland AG Systems will pay the freight charges when a warranty recalled part is to be returned to Heartland AG Systems.

Travel

Travel will only be reimbursed when authorized by a field campaign.

Repairing or Replacing Parts and Components

When performing a warranty repair, a complete part or component should not be replaced under warranty if the repair can be accomplished at a lower cost. If the total cost of the repair including the cost of parts, labor, and/or outside labor or materials is less than 75% of the cost of the parts, the part must be repaired.

Filters and Lubricants

Replacement of lubricants and filters do not qualify for warranty reimbursement unless damage caused by a defect in material or workmanship results in contamination or sudden loss of fluid. Lack of maintenance, operator misuse, or neglect will not qualify for warranty reimbursement.

Claim Form Guidelines

Claims Must Have

1. Product identification number (PIN) or serial number. All characters of the PIN must be used on the warranty claim.
 - Claims for parts warranty must use the word "PARTS" for the PIN. An invoice that shows date of sale or date of installation must be supplied for all parts claims.
2. Model Number
3. Date of failure – Claims must be submitted within 30 days or repair.
4. Date of repair
5. Warranty start date. Date the unit warranty starts or date the parts were sold for parts warranty.
6. Description of the problem. Describe all problems pertinent to the claim.

Comments should be as precise as possible, attach a separate sheet if necessary, to describe the problem.
7. Description of the work performed. List each significant action of the repair.
8. Itemize labor. Provide a breakdown of labor for each significant repair action in the "Describe Work Performed" column.
9. Shop order numbers. The shop order number field is used for recording your shop work order number that is related to the claim. The shop order number field can also be used to record the parts invoice number when claiming a parts warranty.
10. Customer information. Customer information includes the customer name, city, state, county, and postal code. It must match the warranty registration.
11. Warranty claim total. The total of all reimbursement costs requested.
12. Dealer signature and date. All claims must be signed and dated by the distributor to be validated.

INTRODUCTION

Read this manual carefully. It will instruct you on how to operate and service your machine safely and correctly. Failure to do so could result in personal injury and/or equipment damage.

Right hand and left hand sides of the machine are determined by (standing behind the machine) facing in the direction the machine will travel when going forward.

SAFETY INFORMATION

DANGER: This message denotes the most serious specific potential hazard. This sign will have the color combination of RED and WHITE.

WARNING: This message denotes a specific potential hazard.

CAUTION: This message denotes a reminder of safety practices.



NOTE: Indicates a special point of information.

***** Carefully read and follow all safety signs.
***** Reinstall safety signs that are damaged or missing.

Warranty is provided for customers who operate and maintain their equipment as described in this manual. Warranty registration is accomplished by the dealer completing and forwarding the WARRANTY REGISTRATION FORM along with a copy of the dealer's invoice to Heartland Ag Systems. It is in your best interest to insure that this has been done.

WARRANTY does not cover the following.

- 1. Cleaning, transporting, mailing and service call charges.
- 2. Depreciation or damage caused by normal wear, accidents, improper protection or improper use.

***** See complete WARRANTY for details

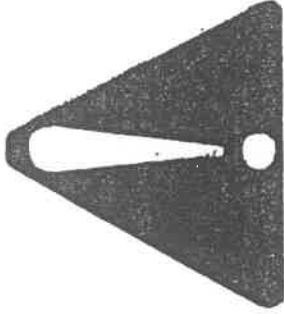
Record your machine model and serial number in the space provided. Your dealer needs this information to give you prompt, efficient service when you order parts.

MODEL NUMBER _____

SERIAL NUMBER _____

DATE PURCHASED _____

***** SAFETY INFORMATION CONTINUED *****



RECOGNIZE SAFETY INFORMATION

This is the safety-alert symbol. When you see this symbol on your machine or in this manual, be alert to the potential for personal injury. Follow recommended precautions and safe operating practices.

FOLLOW SAFETY INSTRUCTIONS

Carefully read all safety messages in this manual and on your machine safety signs. Keep safety signs in good condition. Replace missing or damaged safety signs.

Learn how to operate the machine and how to use controls properly. Do not let anyone operate without instructions.

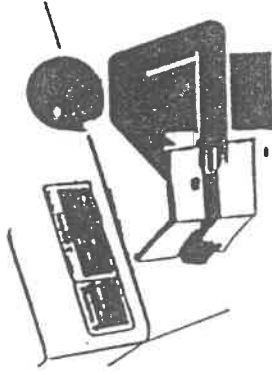
Keep your machine in proper working condition. Unauthorized modification to the machine may impair the function and/or safety and affect machine life.

PROTECT CHILDREN AND BYSTANDERS

Before you back, **LOOK CAREFULLY** behind for children. Clear area of children, pets and bystanders.

TRANSPORT SAFETY

- * Always use safety chains during road transportation.
- * Check wheel nuts daily.
- * Use hydraulic cylinder transport lock-up during road transportation.
- * Maximum recommended road speed is 25 mph.
- * Clear machine of personnel and obstructions.



DECALS

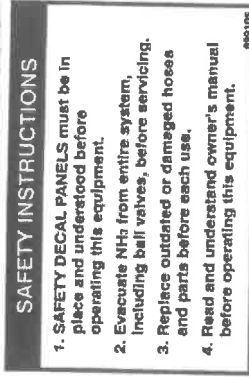
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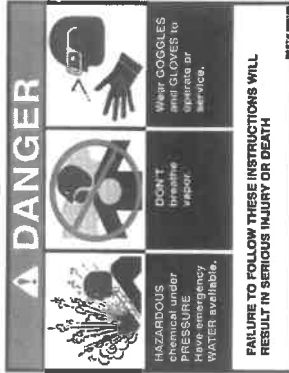
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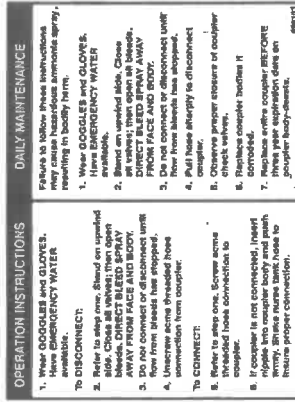
PART #699105



PART #699102



PART #699103



PART #699101



PART #699104



PART # 699108



PART# 699100



PART #USA



3000 NITROMASTER TOOLBAR
ASSEMBLY INSTRUCTIONS

Your 3000 Nitromaster toolbar is shipped with the small parts and hardware packed in boxes marked for the different sections of the toolbar. If you find any items missing, please contact Ag Systems, Inc. immediately.

- Step 1 Select a smooth level surface for the assembly of your Nitromaster toolbar.
- Step 2 Refer to the illustration on page 13 Place the center section (item 1) upon (4) steel saw horses, one at each corner of the frame. DO NOT place the hinge plates on the saw horses.
- Step 3 Install the 3-point pins (item 14, item 15, and item 16) in their appropriate locations and secure with the lynch pins (item 17).
- Step 4 Place the primary wings (item 2) left hand, and (item 3) right hand, upon steel saw horses. Assemble to the center section with the hinge pins (item 5) and appropriate hardware.
- Step 5 Position the wing block (item 4) between the center section and primary wing.
- Step 6 Position the wing control cylinders (item 9) size 3 1/2 x 30, onto the center and primary wing sections and assemble with the hardware (item 10, item 11, item 12, and item 13).
- Step 7 Generously grease the wing hinge points.

IF YOUR TOOLBAR IS NOT EQUIPPED WITH GAUGE WHEELS,
SKIP STEPS 8 TO 19 AND GO TO STEP 20
- Step 8 Assemble the gauge wheels per the illustration on page 16. Position the mounting bracket (item 1) on the secondary wing front tube and attach with (2) u-bolts (item 5) and appropriate hardware. (See gauge wheel box).
- Step 9 Assemble the pivot arm (item 2) to the mounting bracket with the pivot pin (item 3) and the hairpin (item 4).
- Step 10 Install the mechanical jack (item 11) with the clevis pins (item 8 and item 12) and the cotter pins (item 10).
- Step 11 Mount the tires (item 16) to the rims (item 14) and assemble to the hubs.
- Step 12 Adjust the position of the gauge wheels to the desired track width and securely tighten the u-bolts (reference step 8).

IF YOUR TOOLBAR IS NOT EQUIPPED WITH A TOWBAR,
SKIP STEPS 13 TO 20 AND GO TO STEP 21.

- Step 13 Refer to the illustration on page 15. Assemble the wing lock link (item 11), one at each corner of the center section with the clevis pin (item 13) and the hairpin bridge (item 14). Insert the hitch pin (item 12) in the lock link brackets below the hinges on the wings.
- Step 14 Position the wheel support bar (item 1) near the left hand end of the center section. Mark the positions of your shanks at this time and locate the support bar where it will not interfere with a shank. (refer to step 30). Fasten the support bar with (4) u-bolts (item 4) and appropriate hardware. (See towbar box).
- Step 15 Position the gauge wheel mount bracket (item 2) near each end of the support bar and attach with the u-bolts (item 3) and appropriate hardware. Normally these brackets are mounted so that the gauge wheel would be in a trailing (or caster) position when towing the toolbar. However, if your toolbar is equipped with spring bundles and coulters the brackets may need to be mounted so that the wheels will be positioned forward, ahead of the support bar when towing the toolbar.
- Step 16 Attach the towbar mount bracket (item 7) to the right hand end of the primary wing with the u-bolts (item 3) and appropriate hardware. The bracket should be located somewhat off-center towards the rear tube of the toolbar.
- Step 17 Assemble the tow hitch (item 8) to the mount bracket with a hitch pin (item 9). This pin should be located in the center hole of the bracket and the top hole of the tow hitch.
- Step 18 Assemble the jack (item 10) to the tow hitch.
- Step 19 Place the tow hitch in the field position and secure with the hitch pin (item 9).
- Step 20 Assemble the safety stand (item 15) on the rear side of the front tube of the center section per the illustration on page 15.

FOR A 21 FOOT OR 32 FOOT TOOLBAR, SKIP STEPS 21 TO 28 AND GO TO STEP 29.
FOR A 42 FOOT TOOLBAR, ASSEMBLE THE SECONDARY WINGS AS FOLLOWS.

- Step 21 Assemble the secondary wings per the illustration on page 14. Position the wing pivot assembly (item 11) to the end of the primary wing and straddling the front tube. Secure the wing pivot with (2) bolts (item 16) and (2) u-bolts (item 12) and appropriate hardware. (See secondary wing box).
- Step 22 Assemble the secondary wing (item 1) to the wing pivot assembly with the hinge pins (item 2) and the collar (item 3) and appropriate hardware.
- Step 23 Install the levelling screws (item 15) with one nut (item 14) on each side of the plate on the wing pivot assembly. Adjust the level of the secondary wings and tighten the nuts on the leveling screws.
- Step 24 Assemble the pivot hook assembly (item 7) to the wing pivot assembly with the pin (item 8) and the cotter pin (item 9).

- Step 25 Position the cylinder anchor (item 17) to the secondary wing and attach with (2) u-bolts (item 18) and appropriate hardware. Snug only.
- Step 26 Place the hydraulic cylinder (item 21) size 3 x 14 in position with the body on the primary wing and the shaft on the secondary wing. Mount the shaft end with the clevis pin (item 23) and the spacer (item 24) and the washers (item 25) and the cotter pin (item 26).
- Step 27 Fully extend the cylinder. Adjust the position of the cylinder anchor (refer to step 25) and attach the hydraulic cylinder with the standard pins supplied. Securely tighten the u-bolts.
- Step 28 Generously grease the hinge pin pivot points.
- Step 29 Assemble the field hitch per the illustration on page 18. Mount the field hitch centered on the rear tube of the center section. (Ref. pg. 13).
- Step 30 For mounting the knife shanks, stagger brackets and coulters refer to the illustrations on pages 46 to 51. Starting at the center of the toolbar mark the locations for your shank spacings and mount any stagger brackets that may be required. Locate all as shown on pages 46 to 51.
- Step 31 Install the hydraulic fittings and hoses as shown on the hydraulic system schematic illustration on pages 22 and 23. (See hydraulics box)
- Step 32 Mount the toolbar on your tractor and remove the saw horse supports from the toolbar. Attach the hydraulic hoses to your tractor hydraulic system. CAUTION; If your toolbar has been assembled with the In-Line Towbar option make sure the lock links are released before pressurizing the hydraulic system. Refer to (item 11 and item 12) on page 15.
- Step 33 Purge the air from the hydraulic system.
- A) Fully extend all cylinders and circulate the oil for approximately one minute.
 - B) Partially lift the wings and stop. Observe if the wings will sag. This would indicate there is air in the system.
 - C) Fully extend all cylinders, circulate the oil and repeat step B.
 - D) Repeat step C until the system operates satisfactorily.
- Step 34 Assemble the desired knives to the shanks..
- Step 35 NH3 Application Systems – Refer to the illustration on page 52. Mount the brackets supplied (See NH3 box) in the positions shown with the appropriate hardware. Attach the hoses and components supplied for your application as shown on the NH3 plumbing schematic illustration on page 53.
- Step 35A Install the Nh3 Break-Away coupling device per manufacturers instructions. See page 54 of this manual for basic operation and maintenance information.
- Step 36 Check all hydraulic and chemical hose connections. Secure all hoses in a safe manner. Check all nuts and bolts to insure they are securely tightened and that all pins and cotter pins are in place and secure.

TRANSPORT AND TOWING

- Step 37 Fold the toolbar wings and raise your toolbar for transport or prepare to tow your toolbar per steps 38 to 43.
- Step 38 Refer to step 13. Attach the lock links (item 11) to the secondary wings with the hitch pins (item 12) in four locations.
- Step 39 Lower the toolbar so that the knives are resting on the ground. Lower the safety stand to the ground. Lower the tow hitch and secure it in the towing position. Lower the hitch support jack. Remove one gauge wheel and attach it to the wheel support bar at the back of the toolbar. Lower the wheel jack on the gauge wheel until the wheel makes firm contact with the ground.
- Step 40 Detach the tractor and hydraulic lines and move the tractor.
- Step 41 Remove the other gauge wheel and attach it to the wheel support bar at the front of the toolbar.
- Step 42 Lower both wheel jacks to the fully extended position.
- Step 43 Attach your tractor to the tow hitch. Raise the hitch support jack and secure the jack in the transport position. Raise the safety stand and secure it in the transport position.

YOU ARE READY TO ROLL.

COULTER and DISK SEALER MOUNTING INFO

(SHOWN WITH 22 INCH DIA COULTER)

SPGBDLSHK-22C

With the toolbar parked on hard level ground fold out the wings and lower the toolbar so that it is supported on the knives. The toolbar should be level. If necessary, unhitch the toolbar and adjust the jack as required.

SETTING THE COULTER DEPTH; Assuming a working depth for your knife of 8 inches (dim A), adjust one coultter blade to a distance of 4 inches (dim B) above the knife point. This will run the blade 4 inches in the ground.

Measure the distance that the 1 x 3 bar extends above the mounting bracket (dim C). Adjust all coultters to this dimension.

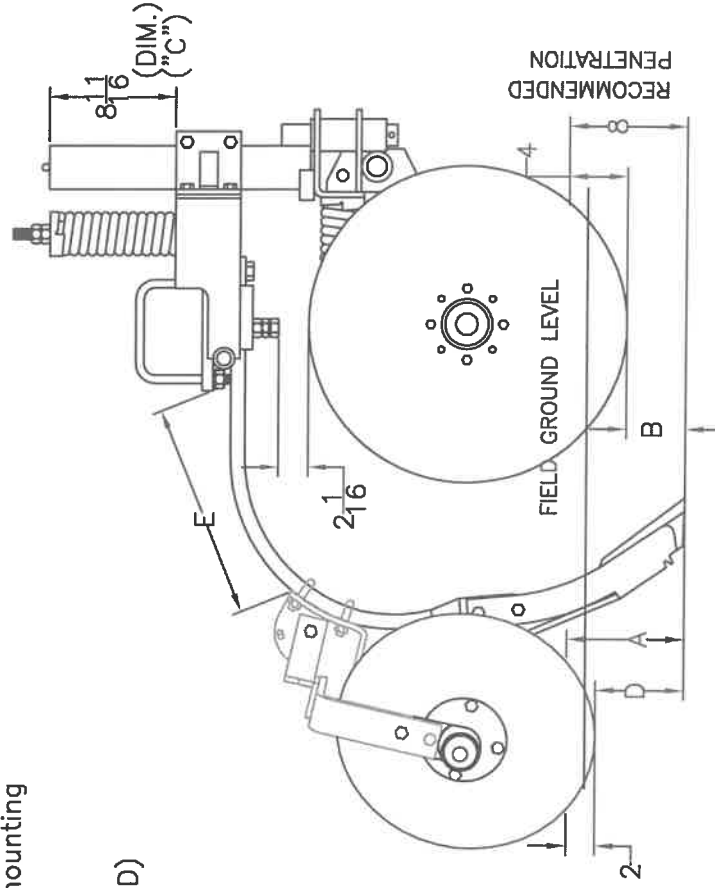
SETTING THE DISK SEALER DEPTH;

When the working depth is 8 inches, position one disk sealer assembly on the shank so that the blades are 6 inches (dim D) above the knife point. Measure the distance from the spring bundle bracket to the disk sealer bracket (dim E). Adjust all disk sealers to this dimension. This will run the disk sealers 2 inches in the ground.

OTHER WORKING DEPTH: modify these dimensions in relation to your working depth. If your knife is 10 inches in the ground (dim A), the dimension from the coultter blade to the knife point (dim B) would be 6 inches. The distance to the disk sealer (dim D) would be 8 inches. This "knife to blade" relationship would apply regardless of what combination of "AgSystems" bracket, shank, knife, coultter and disk sealer is used.

NOTE::

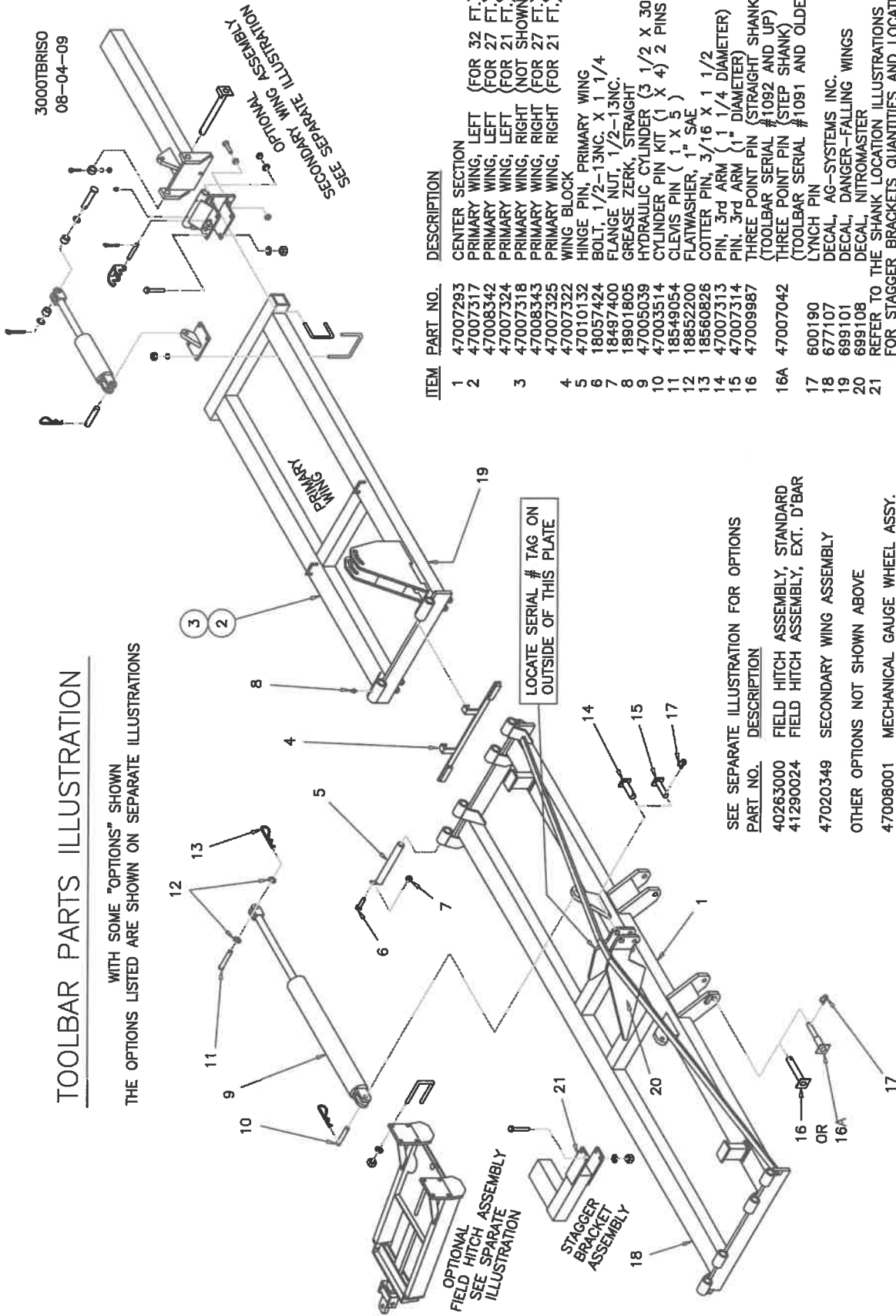
It is important that the coultter and disk sealer blades are not set excessively deep. The coultter blades should be set just deep enough to cut the surface trash. Coultters set too deep will cause the toolbar to float on the coultters and not allow your gauge wheels to contact the ground. Intermitant contact with the ground will cause excessive wear on the hydraulic cylinder clevises and the mounting lugs. Coultters running too deep could also form a trench that will not seal properly and allow excessive NH3 to escape into the atmosphere (smoking).



AG SYSTEMS INC. HUTCHINSON MN. 55350	
DRAWN BY J.N.	NAME COULTER/SEALER ADJUSTMENT
FIRST USED	DATE 07/01/06
REV.	DATE
PART NUMBER	SPGBDLSHK

TOOLBAR PARTS ILLUSTRATION

WITH SOME "OPTIONS" SHOWN
THE OPTIONS LISTED ARE SHOWN ON SEPARATE ILLUSTRATIONS



3000TBRISO
08-04-09

OPTIONAL
SECONDARY WING ASSEMBLY
SEE SEPARATE ILLUSTRATION

ITEM	PART NO.	DESCRIPTION	QTY.
1	47007293	CENTER SECTION	1
2	47007317	PRIMARY WING, LEFT (FOR 32 FT.)	1
	47008342	PRIMARY WING, LEFT (FOR 27 FT.)	OPT.
3	47007324	PRIMARY WING, LEFT (FOR 21 FT.)	OPT.
	47007318	PRIMARY WING, RIGHT (NOT SHOWN)	1
	47008343	PRIMARY WING, RIGHT (FOR 27 FT.)	OPT.
	47007325	PRIMARY WING, RIGHT (FOR 21 FT.)	OPT.
4	47007322	WING BLOCK	2
5	47010132	HINGE PIN, PRIMARY WING	4
6	18057424	BOLT, 1/2-13NC, X 1 1/4	4
7	18497400	FLANGE NUT, 1/2-13NC.	4
8	18901805	GREASE ZERK, STRAIGHT	4
9	47005039	HYDRAULIC CYLINDER (3 1/2 X 30)	1
10	47003514	CYLINDER PIN KIT (1 X 4) 2 PINS	2
11	18549054	CLEVIS PIN (1 X 5)	2
12	18852200	FLATWASHER, 1" SAE	2
13	18560826	COTTER PIN, 3/16 X 1 1/2	4
14	47007313	PIN, 3rd ARM (1 1/4 DIAMETER)	2
15	47007314	PIN, 3rd ARM (1" DIAMETER)	1
16	47009987	THREE POINT PIN (STRAIGHT SHANK) (TOOLBAR SERIAL #1092 AND UP)	2
16A	47007042	THREE POINT PIN (STEP SHANK) (TOOLBAR SERIAL #1091 AND OLDER)	2
17	600190	LYNCH PIN	4
18	677107	DECAL, AG-SYSTEMS INC.	2
19	699101	DECAL, DANGER-FALLING WINGS	2
20	699108	DECAL, NITROMASTER	2
21		REFER TO THE SHANK LOCATION ILLUSTRATIONS FOR STAGGER BRACKETS QUANTITIES AND LOCATIONS	
		47010181	STAGGER BRACKET - LONG AS REQ'D
		47010182	STAGGER BRACKET - MEDIUM
		47010234	STAGGER BRACKET - SHORT
			PLUS HARDWARE AS LISTED ON STAGGER BRKT. ILLUSTRATION

SEE SEPARATE ILLUSTRATION FOR OPTIONS

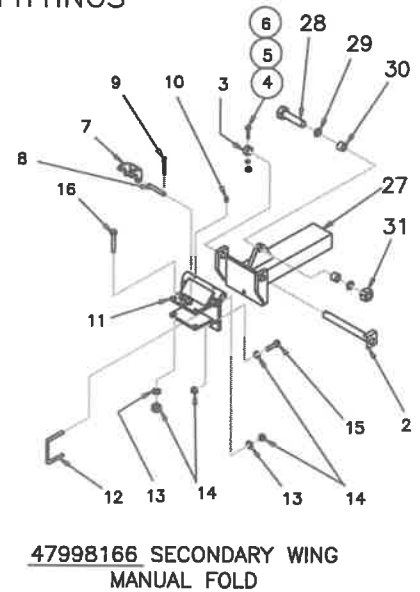
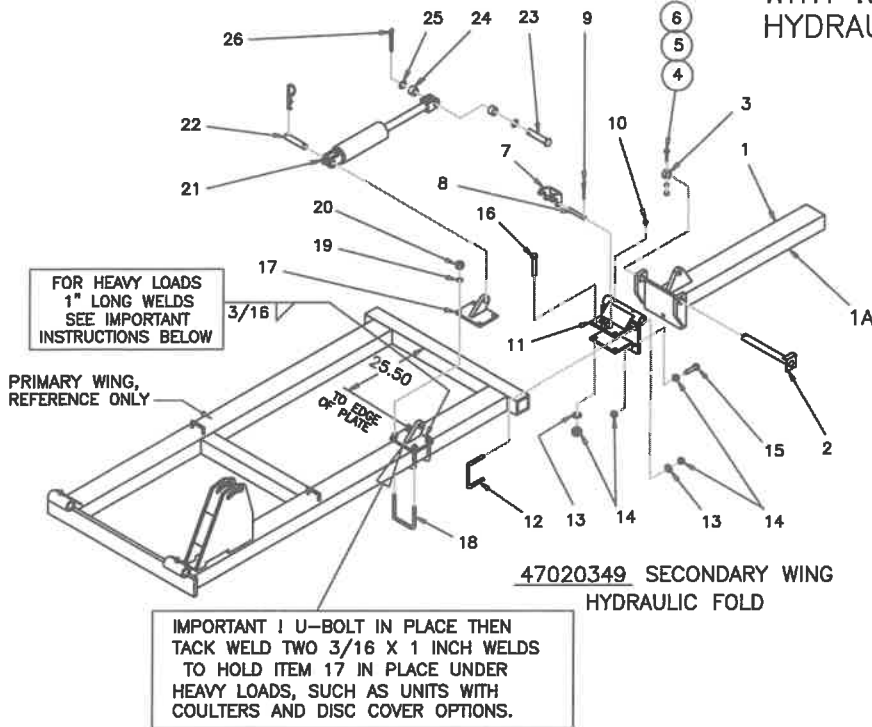
PART NO.	DESCRIPTION
40263000	FIELD HITCH ASSEMBLY, STANDARD
41290024	FIELD HITCH ASSEMBLY, EXT. D'BAR
47020349	SECONDARY WING ASSEMBLY
OTHER OPTIONS NOT SHOWN ABOVE	
47008001	MECHANICAL GAUGE WHEEL ASSY.
47008000	IN-LINE TOWBAR ASSEMBLY
41280020	SAFETY STAND ASSEMBLY (FOR TOWBAR)

NH3 QUICK COUPLER STANDS (SEE PG 62 THRU PAGE 64)

SECONDARY WING ASSEMBLY

WITH .045 ORIFICE
HYDRAULIC FITTINGS

ISO20C
REV 06-17-15

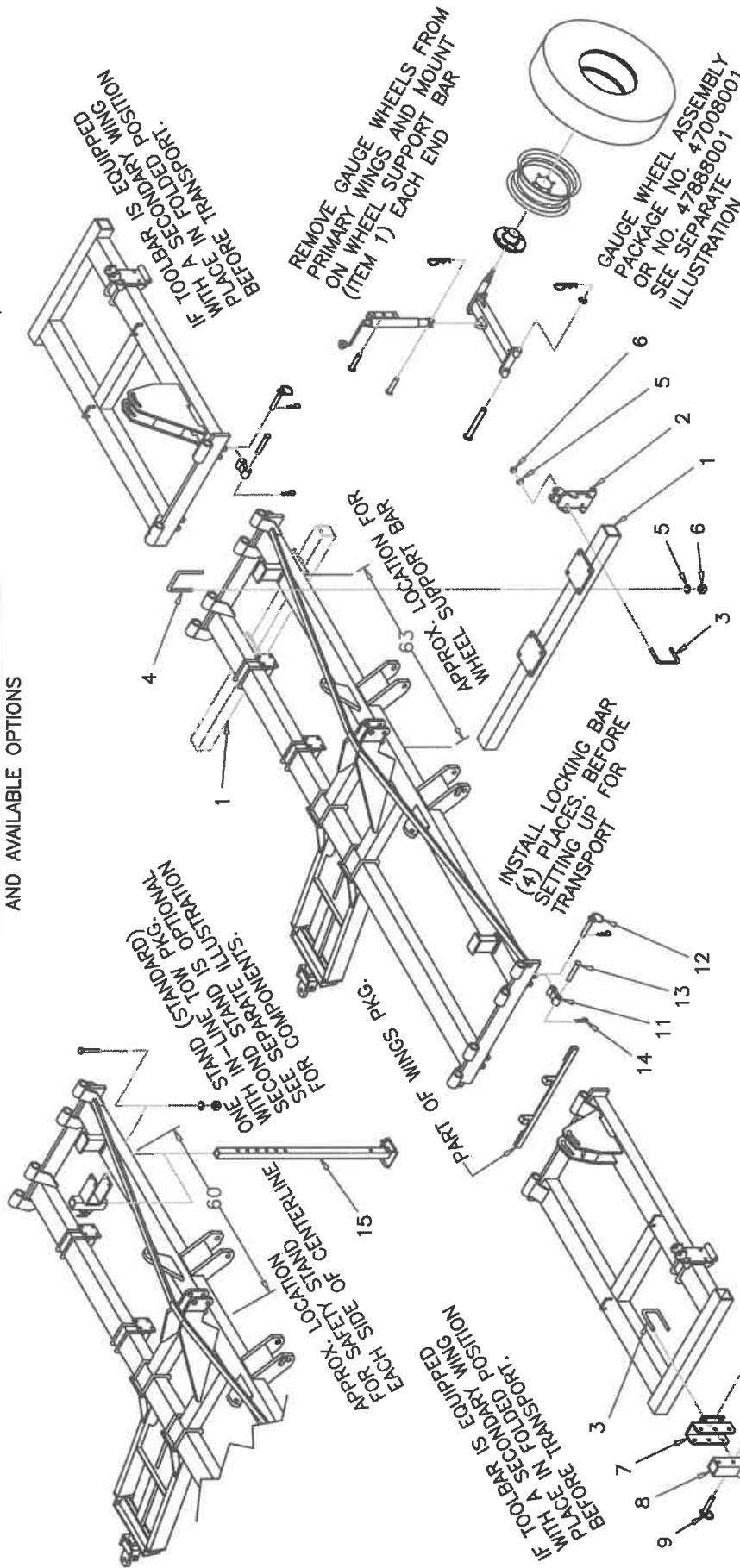


ITEM	PART NO.	DESCRIPTION	QTY.	ITEM	PART NO.	DESCRIPTION	QTY.
	47020349	(SET) 2NDR'Y. WING ASS'Y. COMPLETE (HYDRAULIC) INCL. ITEMS 1 TO 26	1			— NOT SHOWN —	
	47028166	(SET) 2NDR'Y. WING ASS'Y. COMPLETE (HYDRAULIC) INCL. ITEMS 1A TO 26	OPT.	607112		HYDRAULIC HOSE PACKAGE, (INCLUDES)	
1	47010349	SECONDARY WING, (4 FOOT)	2	609126		HOSE, 3/8 X 126"— #6 JICFS BOTH ENDS	2
1A	47008166	SECONDARY WING, (2 FOOT)	OPT.	609138		HOSE, 3/8 X 138"— #6 JICFS BOTH ENDS	2
2	47009562	HINGE PIN	2	608211		HYDRAULIC FITTING PKG. (INCLUDES)	
3	47006310	COLLAR	2	6400-6-8		CONNECTOR, #6 MFIC X #8 O-RING	1
4	18056834	BOLT, 3/8-16NC. X 2 1/2 ZC	2	6400-6-8R		CONNECTOR, #6 MFIC X #8 O-RING WITH .045 ORIFICE	1
5	18891200	LOCKWASHER, 3/8 ZC	2	6500-6		ELBOW, #6 MJIC X #6 FJIC SWIVEL	1
6	18436800	HEX. NUT, 3/8-16NC. ZC	2	6600-6		BRANCH TEE, #6 MJIC X #6 FJIC SWIVEL	2
7	47010351	PIVOT HOOK ASSEMBLY	2	6602-6		RUN TEE, #6 MJIC X #6 FJIC SWIVEL	2
8	47010393	PIN, PIVOT HOOK	2	6801-6-8		ADAPTER ELBOW, #6 MJIC X #8 O-RING	1
9	18560724	COTTER PIN, 5/32 X 1 1/4	4	6801-6-8R		ADAPTER ELBOW, #6 MJIC X #8 O-RING WITH .045 ORIFICE	1
10	18901805	GREASE ZERK, STRAIGHT	4			— OPTIONAL —	
11	47010356	WING PIVOT ASSEMBLY	2	47998166		(SET) 2NDRY. WING ASS'Y. (MANUAL FOLD) INCLUDES ITEM 2 TO 16 PLUS 27 TO 31	
12	47006518	U-BOLT, 3/4-10 NC. (4 X 4 TUBE)	4	27	47008166	SECONDARY WING, MANUAL FOLD	2
13	18891800	LOCKWASHER, 3/4 ZC	12	28	18059062	BOLT, 1-8NC. X 6	2
14	18418400	HEX. NUT, 3/4-10NC. ZC	20	29	18852200	FLATWASHER, 1" SAE ZC	4
15	18098437	BOLT, 3/4-10NC. X 2 1/2 (FULL THREAD)	4	30	47008162	SPACER BUSHING	4
16	18058460	BOLT, 3/4-10NC. X 6 1/2 ZC	4	31	18439000	HEX. NUT, 1-8NC. ZC	2
17	47010352	CYLINDER ANCHOR ASSEMBLY	2				
18	47007083	U-BOLT, 5/8-11 NC. (6 X 4 TUBE)	4				
19	18891600	LOCKWASHER, 5/8	8				
20	18417900	HEX. NUT, 5/8-11NC. ZC	8				
21	47005491	HYDRAULIC CYLINDER (3 X 14)	2				
22	47003513	CYLINDER PIN KIT, (1 X 3 1/2)	1				
23	18549054	CLEVIS PIN, (1 X 5)	2				
24	47010380	SPACER, CYLINDER CLEVIS	4				
25	18852200	FLATWASHER, 1" SAE	4				
26	18560826	COTTER PIN, 3/16 X 1 1/2	2				

IN-LINE TOWBAR ILLUSTRATION

AND AVAILABLE OPTIONS

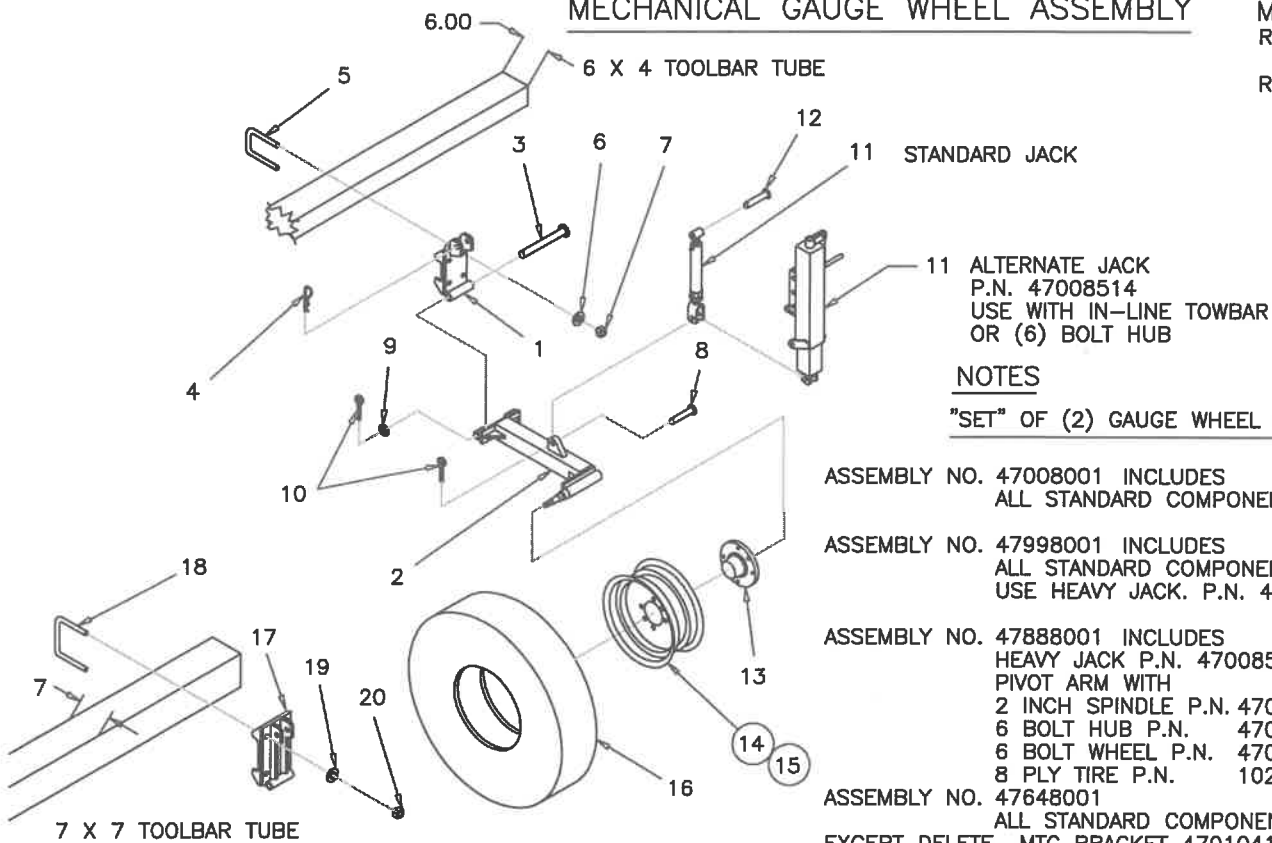
INLINTWB08
JULY/2008



ITEM	PART NO.	DESCRIPTION	QTY.	ITEM	PART NO.	DESCRIPTION	QTY.
1	47007340	TOWBAR ASSEMBLY WITHOUT GAUGE WHEELS INCLUDES THE FOLLOWING	1	10	600378	SWIVEL JACK, COMPLETE	1
2	47010412	WHEEL SUPPORT BAR	2	11	47007310	WING LOCK LINK	4
3	47006518	MOUNTING BRACKET	6	12	18571000	HITCH PIN WITH RETAINING PIN	4
4	47002662	U-BOLT, 3/4-10 NC. (4 X 4 TUBE)	4	13	18541641	CLEVIS PIN, 3/4 X 4 1/2	4
5	18891800	U-BOLT, 3/4-10 NC. (6 X 4 TUBE)	6	14	18590916	HAIRPIN BRIDGE, 1/8 DIAMETER	4
6	18418400	3/4 LOCKWASHER	4	15	41280020	SAFETY STAND PACKAGE, (STD.)	1
7	47007339	3/4-10 NC. HEX. NUT	20		SEE SEPARATE ILLUSTRATION FOR COMPONENTS		
8	47007332	MOUNTING BRACKET, TOWBAR	20	OPTIONS			
9	600178	TOW HITCH	1	41280020	SAFETY STAND PACKAGE		
		HITCH PIN, (WITH HAIRPIN)	1	47008002	IN-LINE TOW BAR PKG. W/ STD. GA. WHLS.		
			2	47888002	IN-LINE TOW BAR PKG. W/ HWY. DUTY GA. WHLS.		

MECHANICAL GAUGE WHEEL ASSEMBLY

MCHGAWHL
REV C
REV 6-10-14



NOTES

"SET" OF (2) GAUGE WHEEL ASSEMBLIES

ASSEMBLY NO. 47008001 INCLUDES ALL STANDARD COMPONENTS

ASSEMBLY NO. 47998001 INCLUDES ALL STANDARD COMPONENTS EXCEPT USE HEAVY JACK. P.N. 47008514

ASSEMBLY NO. 47888001 INCLUDES HEAVY JACK P.N. 47008514 PIVOT ARM WITH 2 INCH SPINDLE P.N. 47019335 6 BOLT HUB P.N. 47009611 6 BOLT WHEEL P.N. 47005589 8 PLY TIRE P.N. 10261

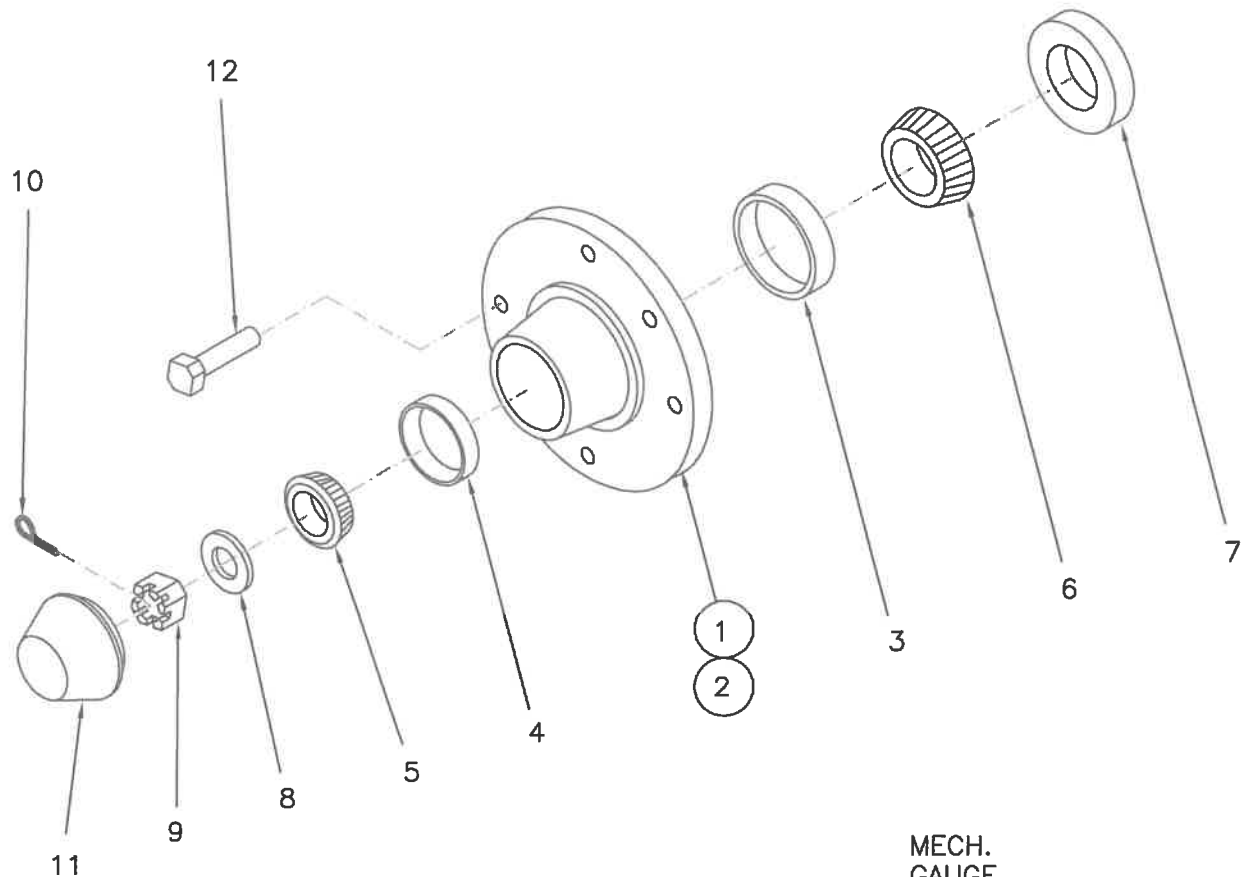
ASSEMBLY NO. 47648001 ALL STANDARD COMPONENTS EXCEPT DELETE MTG BRACKET 47010412 AND HARDWARE ITEMS 5, 6, AND 7 REPLACE WITH MTG BRACKET 47004742 AND HARDWARE ITEMS 18, 19 AND 20

ITEM	PART NO.	DESCRIPTION
------	----------	-------------

1	47010412	MOUNTING BRACKET
	47000413	PIVOT ARM COMPLETE, STANDARD
	47999335	PIVOT ARM COMPLETE, HEAVY DUTY INCLUDES ITEMS 2 AND 13
2	47010413	PIVOT ARM, STANDARD
	47019335	PIVOT ARM, HEAVY DUTY (2" SPINDLE)
3	47010425	PIVOT PIN
4	18560826	COTTER PIN, 3/16 X 1 1/2
5	47007286	U-BOLT, 3/4-10NC.
6	18891800	LOCKWASHER, 3/4
7	18418400	HEX. NUT, 3/4-10NC.
8	18541835	CLEVIS PIN, 3/4 X 2 1/2
9	18852200	FLATWASHER, 1" SAE ZC
10	18560726	COTTER PIN, 5/32 X 1 1/2
11	690063	JACK, TURNBUCKLE TYPE (STANDARD)
(ALT)	47008514	JACK COMPLETE, SQUARE BODY USE WITH HEAVY DUTY PIVOT ARM, OR WITH IN-LINE TOW BAR OPTION
12	18541566	CLEVIS PIN, 3/4 X 3 1/2
13	47005348	HUB ASSEMBLY COMPLETE, (5) BOLT
	47009611	HUB ASSEMBLY COMPLETE, (6) BOLT
14	47005590	WHEEL, 15" X 5 BOLT (STANDARD)
	47005589	WHEEL, 15" X 6 BOLT
15	20120012	VALVE STEM
16	20067015	TIRE, 670 X 15 (STANDARD) (32 PSI)
	10261	TIRE, 11L X 15, 8-PLY (36 PSI)
17	47004742	MOUNTING BRACKET (7 X 7 TUBE ONLY)
18	47005002	U-BOLT, 5/8-11NC. (FOR 7 X 7 BAR)
19	18891600	LOCK WASHER, 5/8
20	18417900	HEX. NUT, 5/8-NNC. ZC

QTY FOR ASSY. NO. 47008001	QTY FOR ASSY. NO. 47998001	QTY FOR ASSY. NO. 47888001	QTY FOR ASSY. NO. 47648001
2	2	2	-
2	2	-	2
-	-	2	-
2	2	-	2
-	-	2	-
2	2	2	2
2	2	2	2
4	2	2	2
2	2	2	2
2	2	2	2
4	4	4	4
2	-	-	2
-	2	2	-
2	2	2	2
2	2	-	2
-	-	2	-
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-	-	2	-
-	-	-	2
-	-	-	4
-	-	-	8
-	-	-	8

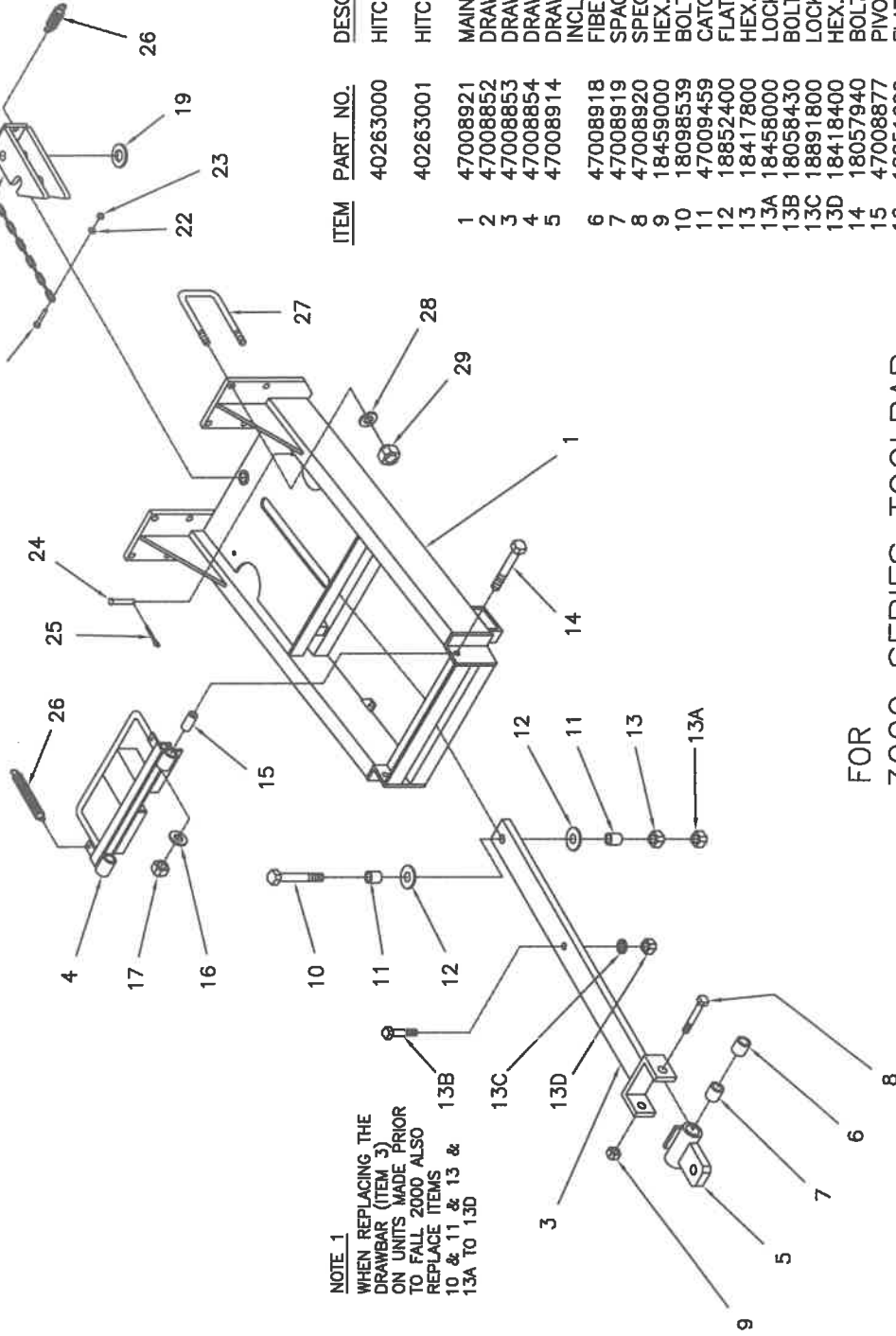
HUB ASSEMBLIES



ITEM	DESCRIPTION	MECH. GAUGE WHEEL ONLY			QTY.
		5 BOLT HUB PART NO.	6 BOLT HUB PART NO.	6 BOLT HUB PART NO.	
1	HUB COMPLETE INCLUDES ITEMS 2 THRU 7 AND 11 THRU 12 ONLY MFGR. PART NUMBER	47005348 HA511	47009618 H618	47009611 H611	1
2	HUB WITH RACES	47006348	47005618	47005511	1
3	INNER BEARING RACE	47005010	47005520	47005710	1
4	OUTER BEARING RACE	44501910	47005510	47005010	1
5	OUTER BEARING CONE	44501949	47005548	47005048	1
6	INNER BEARING CONE	47005048	47005580	47005749	1
7	GREASE SEAL	47006011	47005030	47005013	1
8	SPINDLE WASHER		18000017	18000017	1
9	SPINDLE NUT	18488600	18489100	18489100	1
10	COTTER PIN	18560826	18560828	18560828	1
11	DUST CAP	47005297	47005515	47005513	1
12	LUG BOLT		47005012	47005014	6
12	LUG BOLT	47005014			5

AG26 FIELD HITCH ASSEMBLY (1998 to present) RIGID MOUNT (3000 TOOLBAR ONLY)

AG263000
10-25-07



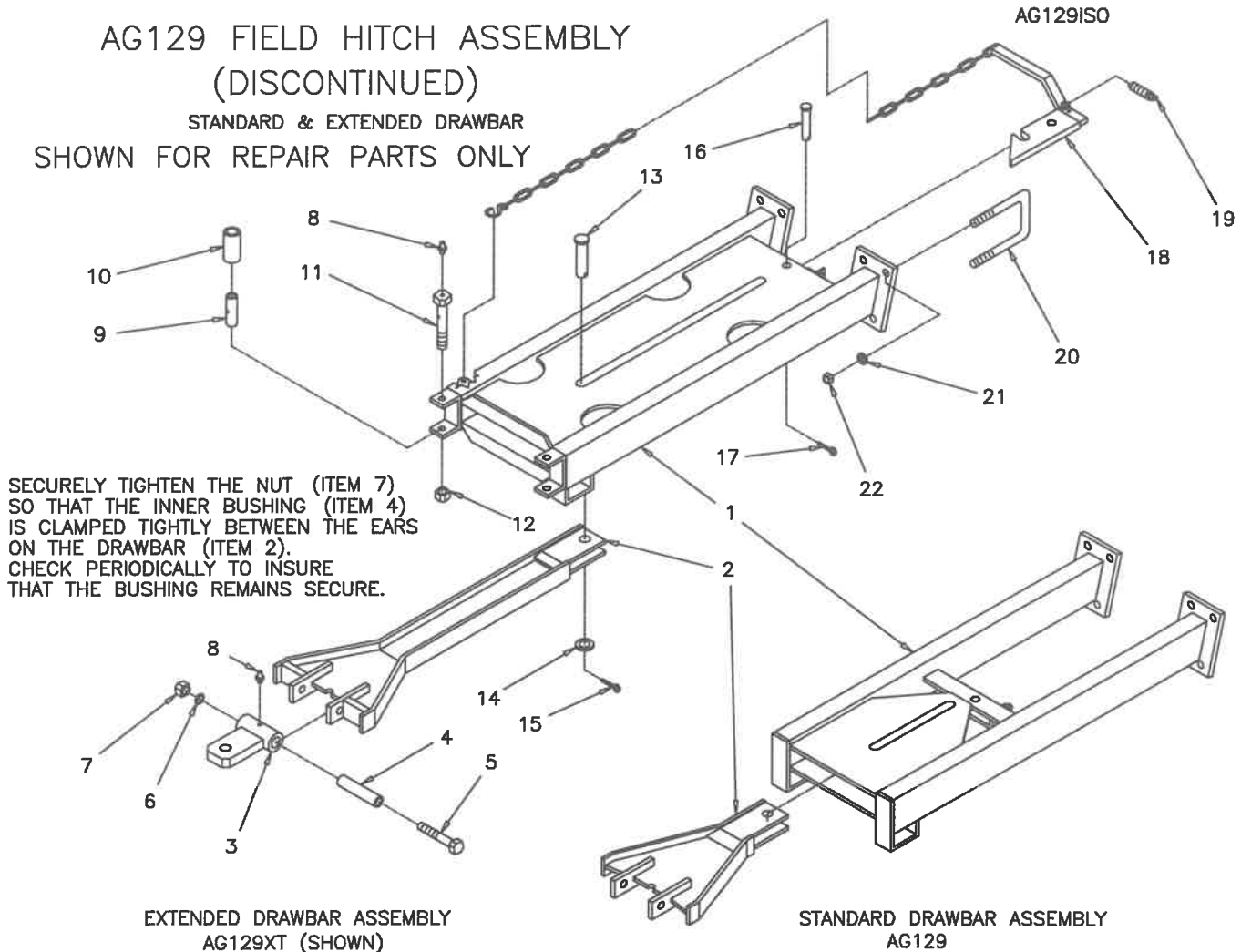
NOTE 1
WHEN REPLACING THE
DRAWBAR (ITEM 3)
ON UNITS MADE PRIOR
TO FALL 2000 ALSO
REPLACE ITEMS
10 & 11 & 13 &
13A TO 13D

ITEM	PART NO.	DESCRIPTION	QTY.
1	40263000	HITCH ASSEMBLY, COMPLETE	1
2	40263001	HITCH ASSEMBLY, LESS U- BOLTS	1
3	47008921	MAIN FRAME, 3000 ONLY	1
4	47008852	DRAWBAR CATCH	1
5	47008853	DRAWBAR (SEE NOTE 1)	1
6	47008854	DRAWBAR LOCK	1
7	47008914	DRAWBAR HITCH, INCLUDES ITEMS, 6 AND 7	1
8	47008918	FIBER BUSHING	2
9	47008919	SPACER BUSHING	1
10	47008920	SPECIAL BOLT, 1-8NC. X 6 7/8	1
11	18459000	HEX. LOCKNUT, 1-8NC.	1
12	18098539	BOLT, 7/8-9NC. X 5 1/2	1
13	47009459	CATCH BUSHING, 7/8 I.D.	2
13A	18852400	FLATWASHER, 1 1/4 NOM. I.D. (SAE)	2
13B	18417800	HEX. NUT, 7/8-9NC.	1
13C	18458000	LOCKNUT, 7/8-9NC.	1
13D	18058430	BOLT, 3/4-10 NC. X 2	1
14	18418400	LOCKWASHER, 3/4	1
15	18057940	HEX. NUT, 3/4-10NC.	1
16	47008877	BOLT, 5/8-11NC. X 3 1/2	2
17	18851600	FLAT BUSHING, 5/8 I.D.	2
18	18457900	FLATWASHER, 5/8 NOM. I.D. SAE.	2
19	18541551	LOCKNUT, 5/8-11NC.	2
20	18842200	CATCH PIVOT PIN, 1 X 4	1
21	18560826	FLATWASHER, 1" SAE	1
22	18055722	COTTER PIN, 3/16 X 1 1/2	1
23	18891000	BOLT, 1/4-18NC. X 1	1
24	18435700	LOCKWASHER, 1/4 NOM. I.D.	1
25	18541147	HEX. NUT, 1/4-18NC.	1
26	18560622	CLEVIS PIN, 5/16 X 2 1/4	1
27	000018	COTTER PIN, 1/8 X 1	1
28	47007286	EXTENSION SPRING	1
29	18891800	U-BOLT, 3/4-10NC.	3
	18418400	LOCKWASHER, 3/4 NOM. I.D.	8
		HEX. NUT, 3/4-10NC.	8

FOR
3000 SERIES TOOLBAR
FITS 6 X 4 TUBULAR FRAME

AG129 FIELD HITCH ASSEMBLY (DISCONTINUED)

STANDARD & EXTENDED DRAWBAR
SHOWN FOR REPAIR PARTS ONLY



EXTENDED DRAWBAR ASSEMBLY
AG129XT (SHOWN)

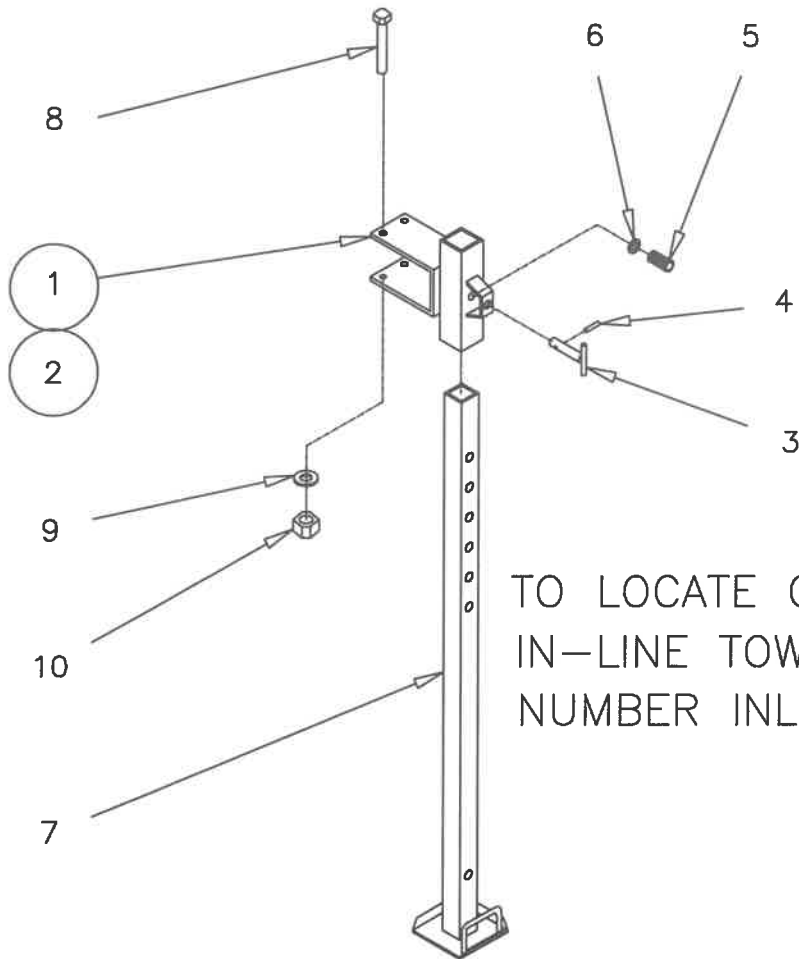
STANDARD DRAWBAR ASSEMBLY
AG129

ITEM	PART NO.	DESCRIPTION	QTY.
	41290024	HITCH ASSEMBLY COMPLETE	1
		INCLUDES ITEMS 1 TO 22	
	47018615	HITCH ASSEMBLY, LESS U-BOLTS	
		INCLUDES ITEMS 1 TO 19	
1	47008615	FRAME	1
2	47008421	DRAWBAR	1
3	47007277	CLEVIS	1
4	47007285	INNER BUSHING, CLEVIS	1
5	18058460	BOLT, 3/4-10NC. X 6 1/2	1
6	18891800	LOCKWASHER, 3/4	1
7	18418400	HEX. NUT, 3/4-10NC.	1
8	18901805	GREASE ZERK, STRAIGHT	3
9	47008405	INNER BUSHING, ROLLER	2
10	47008406	GUIDE ROLLER	2
11	47008614	BOLT, GREASABLE- (5/8 X 4 1/2)	2
12	18457900	LOCK NUT, 5/8-11NC.	2
13	47109009	DRAWBAR PIN, 1" X 4"	1
14	18842200	FLATWASHER, 1" SAE	1
15	18561026	COTTER PIN, 1/4 X 1 1/2	1
16	18541566	CLEVIS PIN, 3/4 X 3 1/2	1
17	18560726	COTTER PIN, 5/32 X 1 1/2	1
18	47008623	CATCH, WITH CHAIN	1
19	47101013	EXTENSION SPRING	1
20	47007286	U-BOLT, 3/4-10NC.	4
		NOTE: WHEN MOUNTED ON 3000 SERIES TOOLBAR	
		USE (2) P.N. 47007286 U-BOLTS PLUS	
	47008905	BENT U-BOLT, 3/4-10NC.	2
21	18891800	LOCKWASHER, 3/4	8
22	18418400	HEX. NUT, 3/4-10NC.	8

ITEM	PART NO.	DESCRIPTION	QTY.
	41290000	HITCH ASSEMBLY COMPLETE	1
		INCLUDES ITEMS 1 TO 22	
	47010343	HITCH ASSEMBLY, LESS U-BOLTS	
		INCLUDES ITEMS 1 TO 19	
1	47010330	HITCH FRAME WELLDMENT	1
		DRAWBAR ASSEMBLY	
		INCLUDES ITEMS 2 TO 8	
2	47007276	DRAWBAR WELLDMENT	1
3	47007277	CLEVIS	1
4	47007285	INNER BUSHING, CLEVIS	1
5	18058460	BOLT, 3/4-10NC. X 6 1/2	1
6	18891800	LOCKWASHER, 3/4	1
7	18418400	HEX. NUT, 3/4-10NC.	1
8	18901805	GREASE ZERK, STRAIGHT	1
9		NOT USED	
10		NOT USED	
11		NOT USED	
12		NOT USED	
13	47109009	PIN, 1 X 4	1
14	18842200	FLATWASHER, 1" SAE	1
15	18561026	COTTER PIN, 1/4 X 1 1/2	1
16	18541830	CLEVIS PIN, 3/4 X 2	1
17	18560726	COTTER PIN, 5/32 X 1 1/2	1
18	47010344	CATCH WELLDMENT	1
19	47101013	EXTENSION SPRING	1
20	47006951	U-BOLT, 5/8-11UNC.	4
21	18891600	LOCKWASHER, 5/8	8
22	18417900	HEX. NUT, 5/8-11UNC.	8

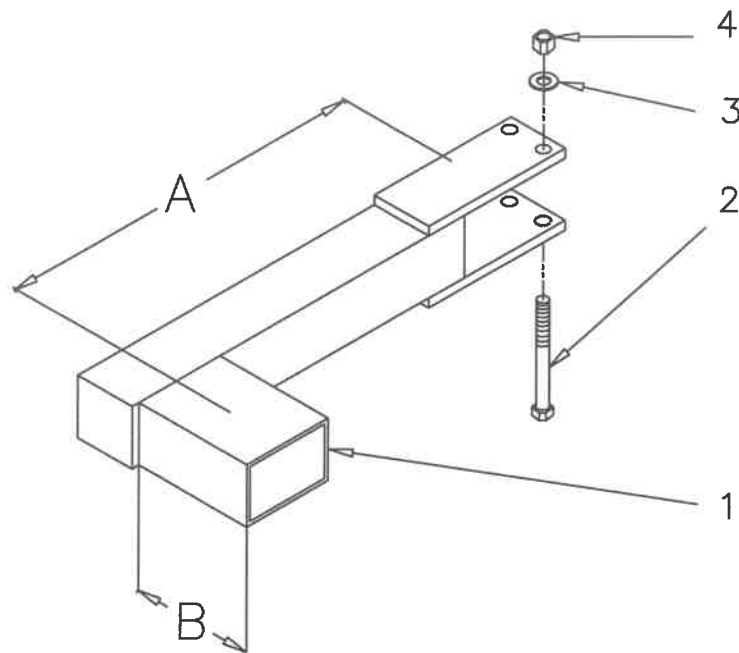
SAFETY STAND ASSEMBLY

ISO28
07/08/08



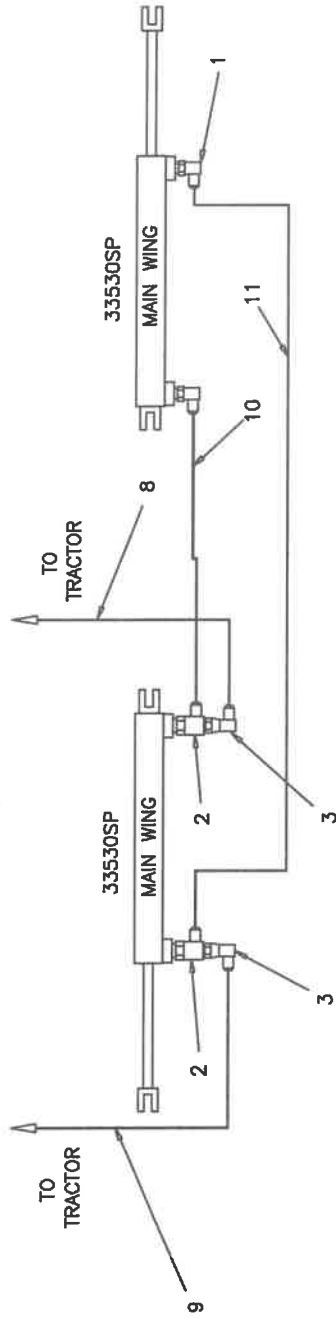
ITEM	PART NO.	DESCRIPTION	QTY
	41280020	SAFETY STAND COMPLETE INCLUDES THE FOLLOWING	1
1	47006635	LOCK ASSEMBLY INCLUDES ITEMS 2 TO 6	1
2	2707W	LOCK MOUNT BRACKET	1
3	6215W	ADJUSTMENT PIN	1
4	18511033	SPRING PIN, 1/4 X 1 1/2	1
5	31937	COMPRESSION SPRING	1
6	18851800	FLATWASHER, 3/4 DIA. SAE.	1
7	47002708	STAND LEG	1
8	18057456	BOLT, 1/2-13 NC. X 5 1/2	2
9	18891400	LOCKWASHER, 1/2 DIA.	2
10	18417400	HEX. NUT, 1/2-13 NC.	2

STAGGER BRACKET ASSEMBLY



ITEM	PART NO.	DESCRIPTION	DIM. A	DIM. B	QTY.
1	47010182	STAGGER BRACKET - SHORT	18	12	1
	47010234	STAGGER BRACKET - MEDIUM	24	12	1
	47010181	STAGGER BRACKET - LONG	30	8	1
	47010434	STAGGER BRACKET - XT. LONG	36	8	1
	47009431	STAGGER BRACKET - 2-XT. LONG	40	8	1
	47010235	STAGGER BRACKET - SPECIAL	24	15	1
2	18058460	BOLT, 3/4-10NC. X 6 1/2	---	---	2
3	18891800	LOCKWASHER, 3/4	---	---	2
4	18418400	HEX. NUT, 3/4-10NC.	---	---	2

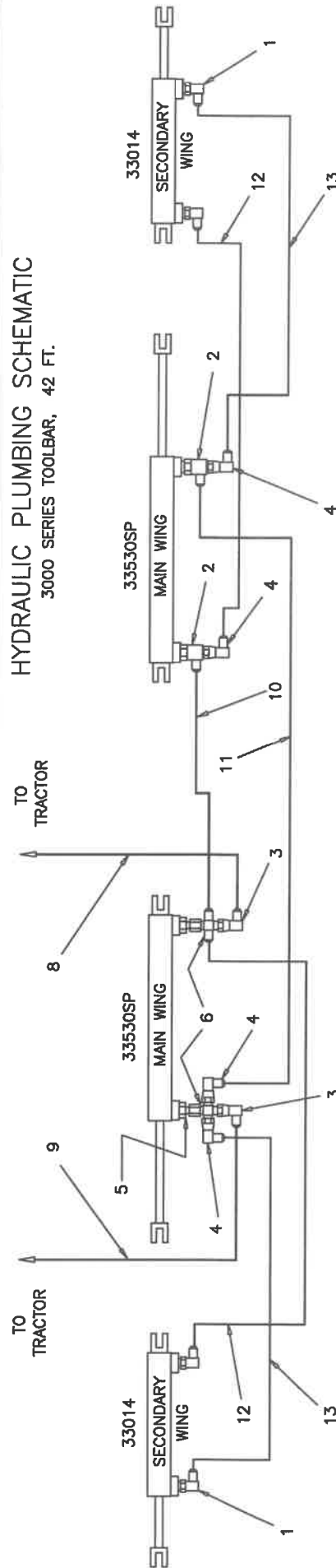
HYDRAULIC PLUMBING SCHEMATIC 1998 PROD. AND EARLIER
3000 SERIES TOOLBAR, 21 AND 32 FT.



32 FT. TOOLBAR HOSE PACKAGE NO. 3000320
WITH .062 DIA. ORIFICE RESTRICTOR FITTINGS
32 FT. TOOLBAR FITTING PACKAGE NO. 699991

ITEM	PART NO.	DESCRIPTION	QTY
8	609080	HOSE, 3/8 X 80" - 1/2 MPT X #6 JICFS	1
9	609094	HOSE, 3/8 X 112" - 1/2 MPT X #6 JICFS	1
10	609600	HOSE, 3/8 X 60" - #6 JICFS BOTH ENDS	1
11	609126	HOSE, 3/8 X 126" - #6 JICFS BOTH ENDS	1
1	6801-6-8	ADAPTER ELBOW #6 MJIC X #8 M O-RING	2
2	6804-6-8	RUN TEE # 6 MJIC X #8 O-RING	2
3	6500-6-R	ELBOW #6 MJIC X #6 FJIC SWIVEL W/ .062 ORIFICE	2

HYDRAULIC PLUMBING SCHEMATIC
3000 SERIES TOOLBAR, 42 FT.

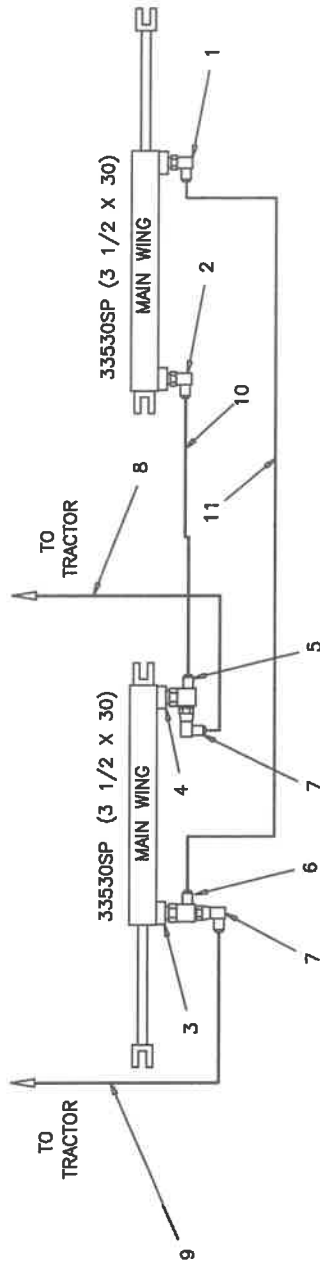


42 FT. TOOLBAR HOSE PACKAGE NO. 3000420
WITH .062 DIA. ORIFICE RESTRICTOR FITTINGS
42 FT. TOOLBAR FITTING PACKAGE NO. 342000

ITEM	PART NO.	DESCRIPTION	QTY
8	609080	HOSE, 3/8 X 80" - 1/2 MPT X #6 JICFS	1
9	609094	HOSE, 3/8 X 112" - 1/2 MPT X #6 JICFS	1
10	609600	HOSE, 3/8 X 61" - #6 JICFS BOTH ENDS	1
11	609126	HOSE, 3/8 X 126" - #6 JICFS BOTH ENDS	1
12	609138	HOSE, 3/8 X 138" - #6 JICFS BOTH ENDS	2
13	609126	HOSE, 3/8 X 126" - #6 JICFS BOTH ENDS	2
1	6801-6-8	ADAPTER ELBOW #6 MJIC X #8 M O-RING	4
2	6804-6-8	RUN TEE # 6 MJIC X #8 O-RING	2
3	6500-6-R	ELBOW #6 MJIC X #6 FJIC SWIVEL W/ .062 ORIFICE	2
4	6500-6	ELBOW #6 MJIC X #6 FJIC SWIVEL	4
5	6402-8-6	REDUCER, #8 M O-RING X #6 FJIC SWIVEL	2
6	2650-6	CROSS #6 MJIC	2

HYDRAULIC PLUMBING SCHEMATIC 1999 PROD. TO PRESENT
3000 SERIES TOOLBAR, 21 AND 32 FT.

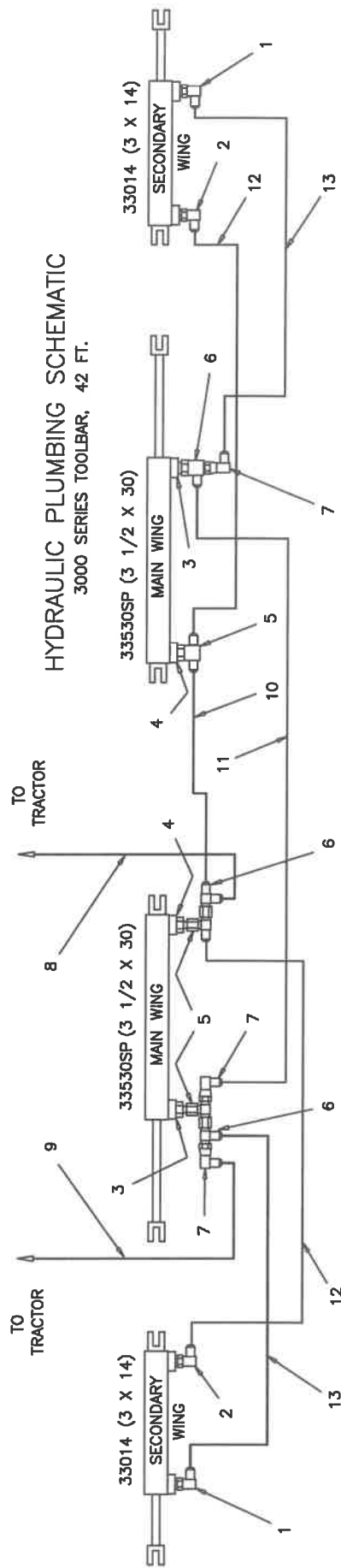
3000PMB
10-1-07



ITEM	PART NO.	DESCRIPTION	QTY
8	609080	HOSE, 3/8 X 80" - 1/2 MPT X #6 JICFS	1
9	609094	HOSE, 3/8 X 112" - 1/2 MPT X #6 JICFS	1
10	609600	HOSE, 3/8 X 61" - #6 JICFS BOTH ENDS	1
11	609126	HOSE, 3/8 X 126" - #6 JICFS BOTH ENDS	1

ITEM	PART NO.	DESCRIPTION	QTY
1	6801-6-8R	ADAPTER ELBOW #6 MJIC X #8 M O-RING WITH .045 ORIFICE (BLACK FINISH)	1
2	6801-6-8	ADAPTER ELBOW #6 MJIC X #8 M O-RING	1
3	6400-6-8R	CONNECTOR, #6 MJIC X #8 M O-RING WITH .045 ORIFICE (BLACK FINISH)	1
4	6400-6-8	CONNECTOR, #6 MJIC X #8 M O-RING	1
5	6600-6	BRANCH TEE, #6 MJIC X #6 FJIC SWIVEL	1
6	6602-6	RUN TEE, #6 MJIC X #6 FJIC SWIVEL	1
7	6500-6	ELBOW, #6 MJIC X #6 FJIC SWIVEL	2

WITH .045 DIA. ORIFICE RESTRICTOR FITTINGS
32 FT. TOOLBAR FITTING PACKAGE NO. 3032000

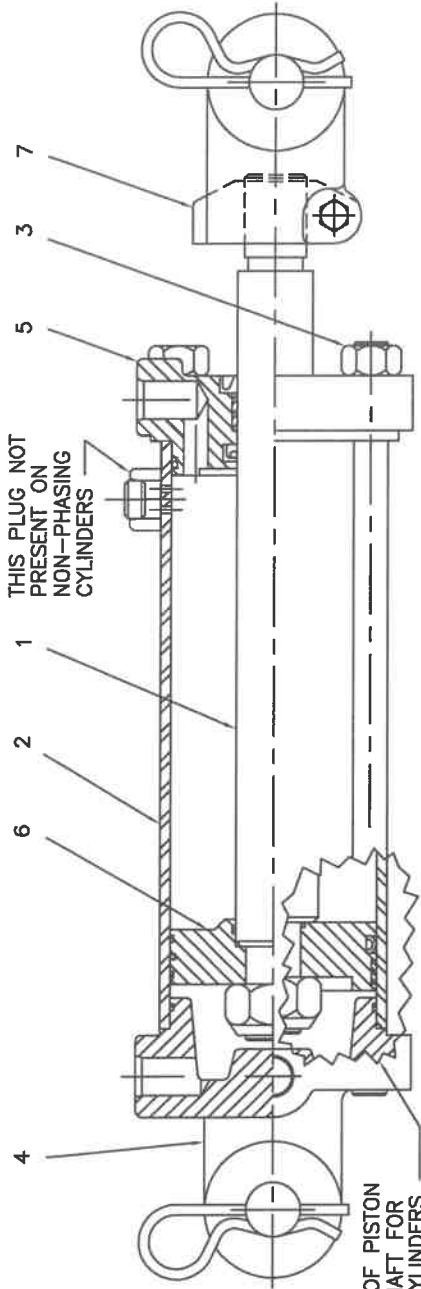


ITEM	PART NO.	DESCRIPTION	QTY
8	609080	HOSE, 3/8 X 80" - 1/2 MPT X #6 JICFS	1
9	609094	HOSE, 3/8 X 112" - 1/2 MPT X #6 JICFS	1
10	609600	HOSE, 3/8 X 61" - #6 JICFS BOTH ENDS	1
11	609126	HOSE, 3/8 X 126" - #6 JICFS BOTH ENDS	1
12	609138	HOSE, 3/8 X 138" - #6 JICFS BOTH ENDS	2
13	609126	HOSE, 3/8 X 126" - #6 JICFS BOTH ENDS	2

ITEM	PART NO.	DESCRIPTION	QTY
1	6801-6-8R	ADAPTER ELBOW #6 MJIC X #8 M O-RING WITH .045 ORIFICE (BLACK FINISH)	2
2	6801-6-8	ADAPTER ELBOW #6 MJIC X #8 M O-RING	2
3	6400-6-8R	CONNECTOR, #6 MJIC X #8 M O-RING WITH .045 ORIFICE (BLACK FINISH)	2
4	6400-6-8	CONNECTOR, #6 MJIC X #8 M O-RING	2
5	6600-6	BRANCH TEE, #6 MJIC X #6 FJIC SWIVEL	3
6	6602-6	RUN TEE, #6 MJIC X #6 FJIC SWIVEL	3
7	6500-6	ELBOW, #6 MJIC X #6 FJIC SWIVEL	3

WITH .045 DIA. ORIFICE RESTRICTOR FITTINGS
42 FT. TOOLBAR FITTING PACKAGE NO. 3042000

HYDRAULIC PLUMBING SCHEMATIC
3000 SERIES TOOLBAR, 42 FT.



CONFIGURATION OF PISTON AND END OF SHAFT FOR NON-PHASING CYLINDERS

ITEM NO.	DESCRIPTION	WING CYL. 3 1/2 X 30 47005039 B350240BBA07A	2ndry.WING CYL. 3 X 14 47005491 B300140BBA07A	QTY. REQ'D
1	SHAFT	010735750B	010718750A	1
2	TUBE	051732063A	051516063A	1
3	TIE ROD ASSM.	170201343	170201182	4
4	BUTT	1417005SF	1415005SF	1
5	GLAND ASSM.	0817BBGSF	0815BBGSF	1
6	PISTON	071700174	071500244	1
7	CLEVIS ASSM.	100000577	100000423	1
	REPAIR KIT	47033500	47033000	1

Repair kit items not available individually.

TIE ROD DISASSEMBLY--ASSEMBLY PROCEDURE.

With the cylinder removed from the machine, cleaned, drained of oil and fully retracted, proceed as follows. DISASSEMBLY.

1. Secure the cylinder in a vice or other method to prevent rotation. Clean the immediate area so the parts can be laid out.
2. Remove the tie rod nuts. Pull the shaft assembly from the cylinder. Remove the tube item (2).
3. Loosen the clevis nut and remove the clevis item (7) from the shaft assembly.
4. Place the shaft assembly in a vice with brass or copper jaws so as not to damage the shaft.
5. Remove all seals from the butt, (item 4) gland assembly, (item 5) and piston (item 6) for replacement. Clean and inspect all parts for damage, (nicks, scratches, cracks etc.). Replace as necessary. If you have any question please contact Prince Engineering (712-277-4061)

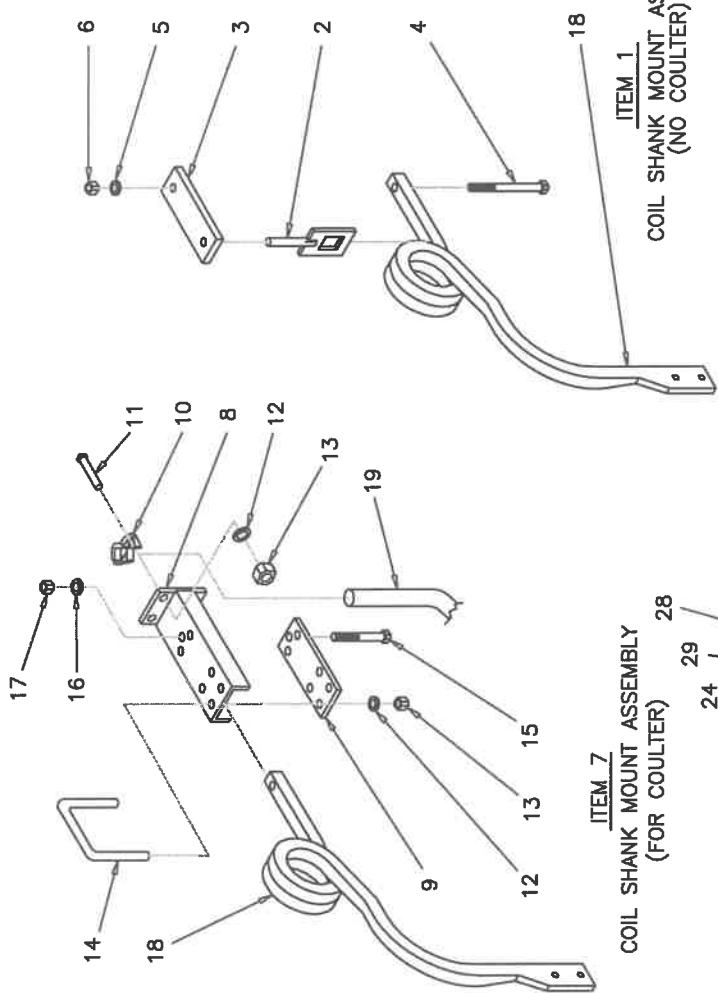
REASSEMBLY.

1. Replace all the seals on items (4), (5), and (6) except, for non-phasing cylinders do not replace the small o-ring on the ID of the piston item (6) until you are ready to attach the shaft item (1).
2. For non-phasing cylinders, place the small o-ring seal for the piston over the shaft turnaround. Apply a light coat of grease to the seal. Slip the piston item (6) onto the turnaround with the o-ring counterbore towards the shaft shoulder. Take care not to pinch the o-ring between the piston and the shoulder.
3. Replace the shaft end nut and secure.
4. Apply a light coat of grease to the seals on the gland item (5) and slip the gland over the shaft end. Be very careful not to damage the seals. Slip the entire assembly into the lightly oiled tube, item (2) with the piston first making sure the tube slips over the OD seals of the gland.
5. Take the entire assembly from step 4 and slip the tube over the OD seal on the butt item (4). Align the ports in the butt and the gland and assemble the nuts to the tie rods and torque uniformly.
6. Test the reassembled cylinder for leaks and install in your machine. If you have any problems please contact Prince Engineering (712-277-4061)

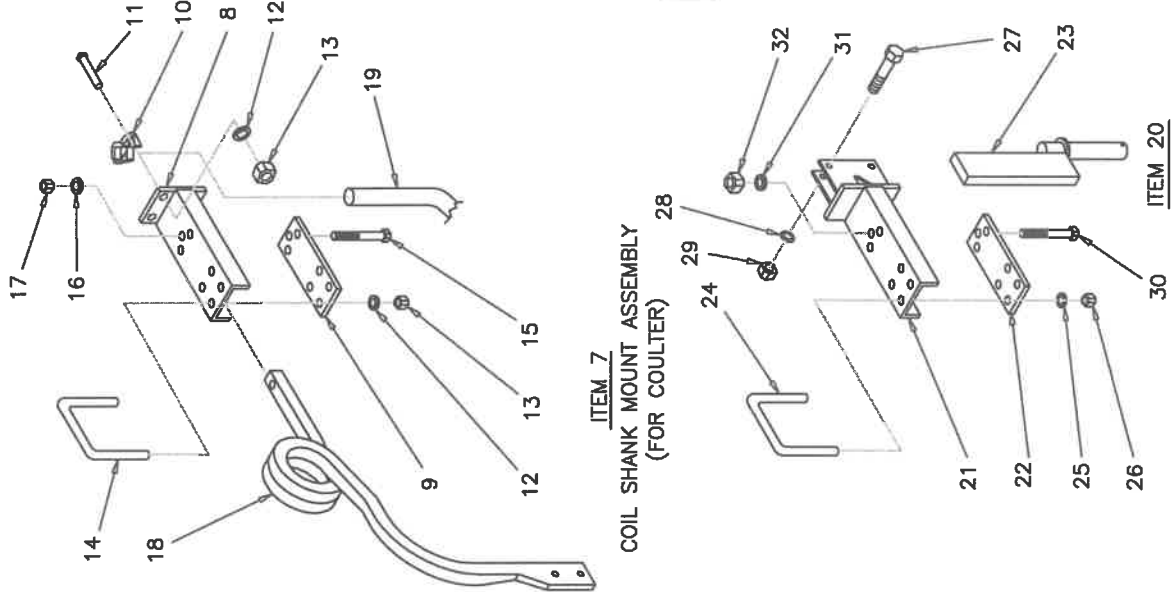
STANDARD UNIVERSAL MOUNT

COIL SHANK MOUNTING

ITEM	PART NO.	DESCRIPTION	QTY
1	40511000	SHANK CLAMP SET, (6 X 4 BAR)	1
	40512000	SHANK CLAMP SET, (4 X 4 BAR)	OPT.
		INCLUDES ITEMS 2 TO 6	
2	44009306	LOLLIPOP, FOR SQUARE SHANK	1
	602083	LOLLIPOP, FOR 1 X 2 SHANK WITH LOCKWASHER & NUT	OPT.
3	44006685	TOP PLATE, (6 X 4 BAR)	1
	18058470	TOP PLATE, (4 X 4 BAR)	OPT.
4	18058470	BOLT, 3/4-10NC. X 7	1
5	18891800	LOCKWASHER, 3/4	2
6	18418400	HEX. NUT, 3/4-10NC.	2
7	47309184	SHANK MOUNT ASS'Y. (SQUARE SHANK)	1
		INCLUDES ITEMS 8 TO 14	
	47309177	SHANK MOUNT ASS'Y. (1 X 2 SHANK)	OPT.
		ON 6 X 4 BAR	
	47308184	SHANK MOUNT ASS'Y. (1 X 2 SHANK)	OPT.
		ON 4 X 4 BAR	
		INCLUDES ITEMS 8 TO 14	
8	47309406	SHANK HOLDER, (SQUARE SHANK)	1
	47302890	SHANK HOLDER, (1 X 2 SHANK)	OPT.
9	47306005	CLAMP PLATE, (SQUARE SHANK)	1
	47006832	CLAMP PLATE, (1 X 2 SHANK)	OPT.
10	47301538	CLAMP, COULTER SHANK	2
11	18057940	BOLT, 5/8-11NC. X 3 1/2	4
12	18891600	LOCKWASHER, 5/8	8
13	18417900	HEX. NUT, 5/8-11NC.	8
14	47006950	U-BOLT, 5/8-11NC. (6 X 4 BAR)	2
	47006951	U-BOLT, 5/8-11NC. (4 X 4 BAR)	OPT.
15	18057938	BOLT, 5/8-11NC. X 3	1
16	18891600	LOCKWASHER, 5/8	1
17	18417900	HEX. NUT, 5/8-11NC.	1
18	80310	COIL SHANK (OR AS SPECIFIED)	1
19	4036000	COULTER ASSEMBLY, AG36	1
		W/STRAIGHT OR BENT COULTER SHANK AS SPEC'FD.	
20	47999370	SHANK MOUNT ASSEMBLY COMPLETE	1
		INCLUDES ITEMS 21 TO 29	
21	47309370	SHANK HOLDER, (1 X 2 SHANK)	1
22	47006832	CLAMP PLATE, (1 X 2 SHANK)	1
23	47303811	FLAT BAR COULTER SHANK, 18"	1
	47309811	FLAT BAR COULTER SHANK, 12"	OPT.
24	47006950	U-BOLT, 5/8-11NC. (6 X 4 BAR)	2
	47006951	U-BOLT, 5/8-11NC. (4 X 4 BAR)	OPT.
25	18891600	LOCKWASHER, 5/8	4
26	18417900	HEX. NUT, 5/8-11NC.	4
27	18057434	BOLT, 1/2-13NC. X 2 1/2	2
28	18891400	LOCKWASHER, 1/2	2
29	18417400	HEX. NUT, 1/2-13NC.	2
30	18057938	BOLT, 5/8-11NC. X 3	1
31	18891600	LOCKWASHER, 5/8	1
32	18417900	HEX. NUT, 5/8-11NC.	1



ITEM 1
COIL SHANK MOUNT ASSEMBLY
(NO COULTER)

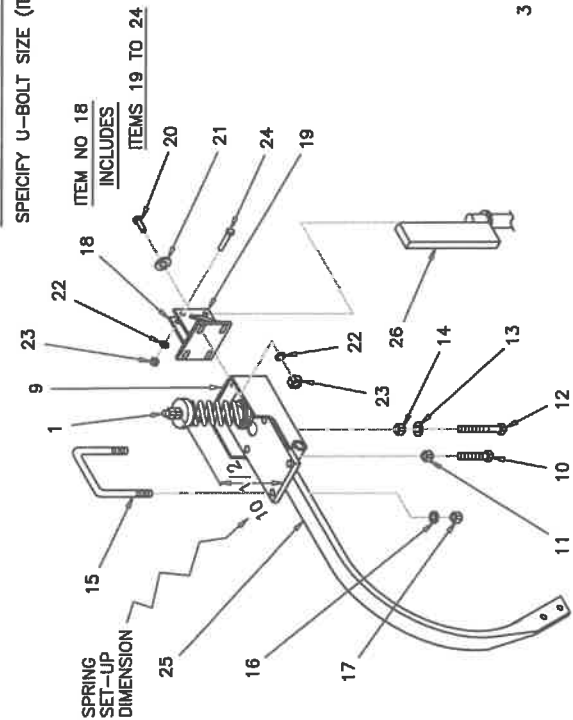


ITEM 20
SHANK MOUNT ASSEMBLY for 1 X 2 FLAT KNIFE SHANK
AND COULTER MOUNTED WITH 1 X 3 FLAT BAR COULTER SHANK

SPRING BUNDLE ASSEMBLY

FOR 6 X 4 BAR
AND 6 X 6 BAR
YEAR 2000 TO PRESENT

SPECIFY U-BOLT SIZE (ITEM 15)



ITEM NO. 9
INCLUDES ITEM 1
AND 10 TO 17

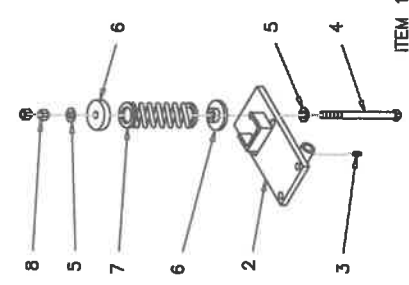
ITEM NO. 1
INCLUDES ITEMS 2 TO 8

ITEM PART NO.	DESCRIPTION	QTY
1	47010082	1
2	47010189	1
3	18901805	2
4	47007766	1
5	18851800	2
6	47007085	2
7	47007565	1
8	18446890	2
9	47020082	1
SPRING LOADED SHANK MOUNT COMPLETE (NO COULTER) INCLUDES ITEMS 1 AND 10 TO 17 (SHIPPING INFO) HARDWARE PACKAGE		
10	18058429	1
11	18449003	1
12	18058436	1
13	18891800	1
14	18418400	1
15	47007083	2
16	47009847	4
17	18417900	4

P.N. 47039417

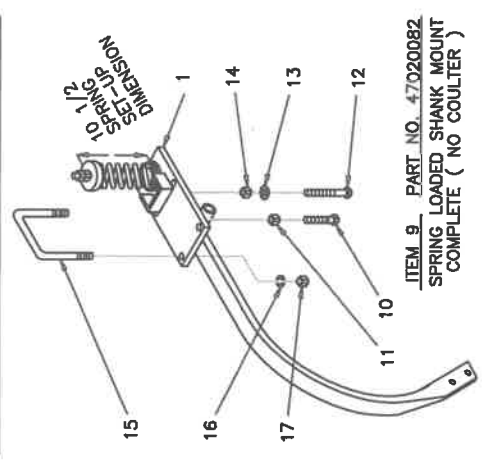
SPRING BUNDLE ASSEMBLY COMPLETE
INCLUDES AT ITEMS (1 TO 25)
DOES NOT INCLUDE THE SHANK OR COULTER

ITEM PART NO.	DESCRIPTION	QTY
1	47029413	1
SPRING SHANK MOUNT ASSEMBLY INCLUDES ITEMS 2 TO 8		
2	47019413	1
3	18901805	2
4	47007766	1
5	18811800	15
6	47007085	2
7	47007565	2
8	18446890	2
9	47039413	5
SPRING LOADED SHANK MOUNT COMPLETE (NO COULTER) INCLUDES ITEMS 1 AND 10 TO 17		
10	18058429	1
11	18449003	1
12	18058436	1
13	18891800	1
14	18418400	1
15	47007083	2
16	47009847	4
17	18417900	4
18	47029417	1
COULTER MOUNTING BRACKET ASSEMBLY INCLUDES ITEM 19 TO 24		
19	47019417	1
20	18057426	4
21	18811400	4
22	18891400	4
23	18417400	6
24	18057434	2
25	103471	1
26	REFER TO COULTER ASSEMBLY COMPLETE FOR ITEM PART NUMBERS AND SPECIFY BLADE ASSEMBLY NUMBER AND SWIVEL BAR NUMBER.	1



ITEM 1 (REPAIR PARTS)
SPRING SHANK MOUNT ASSEMBLY
INCLUDES ITEMS 2 TO 8

SPRING LOADED SHANK MOUNTING

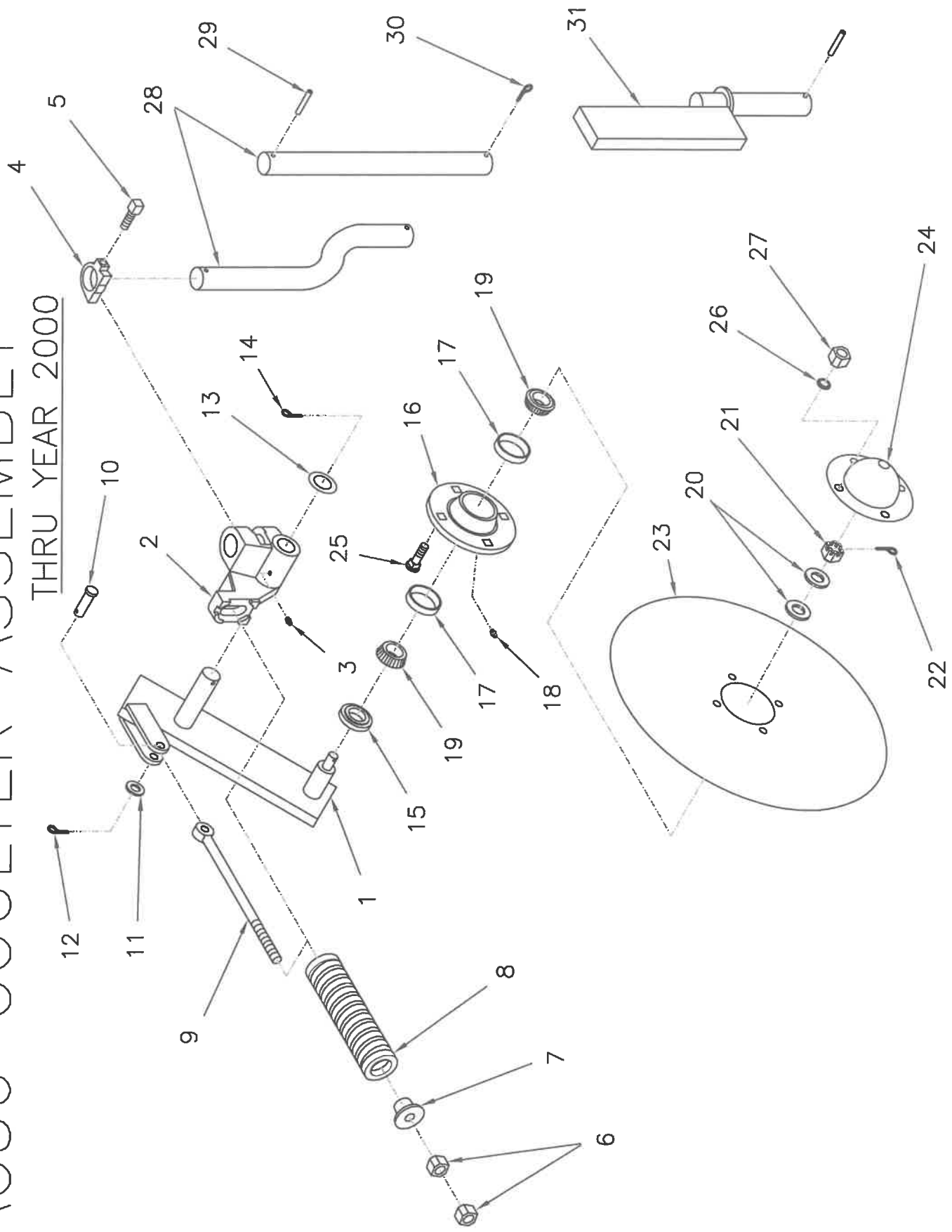


ITEM 9, PART NO. 47020082
SPRING LOADED SHANK MOUNT
COMPLETE (NO COULTER)

AG36 COULTER ASSEMBLY

AG36ISO

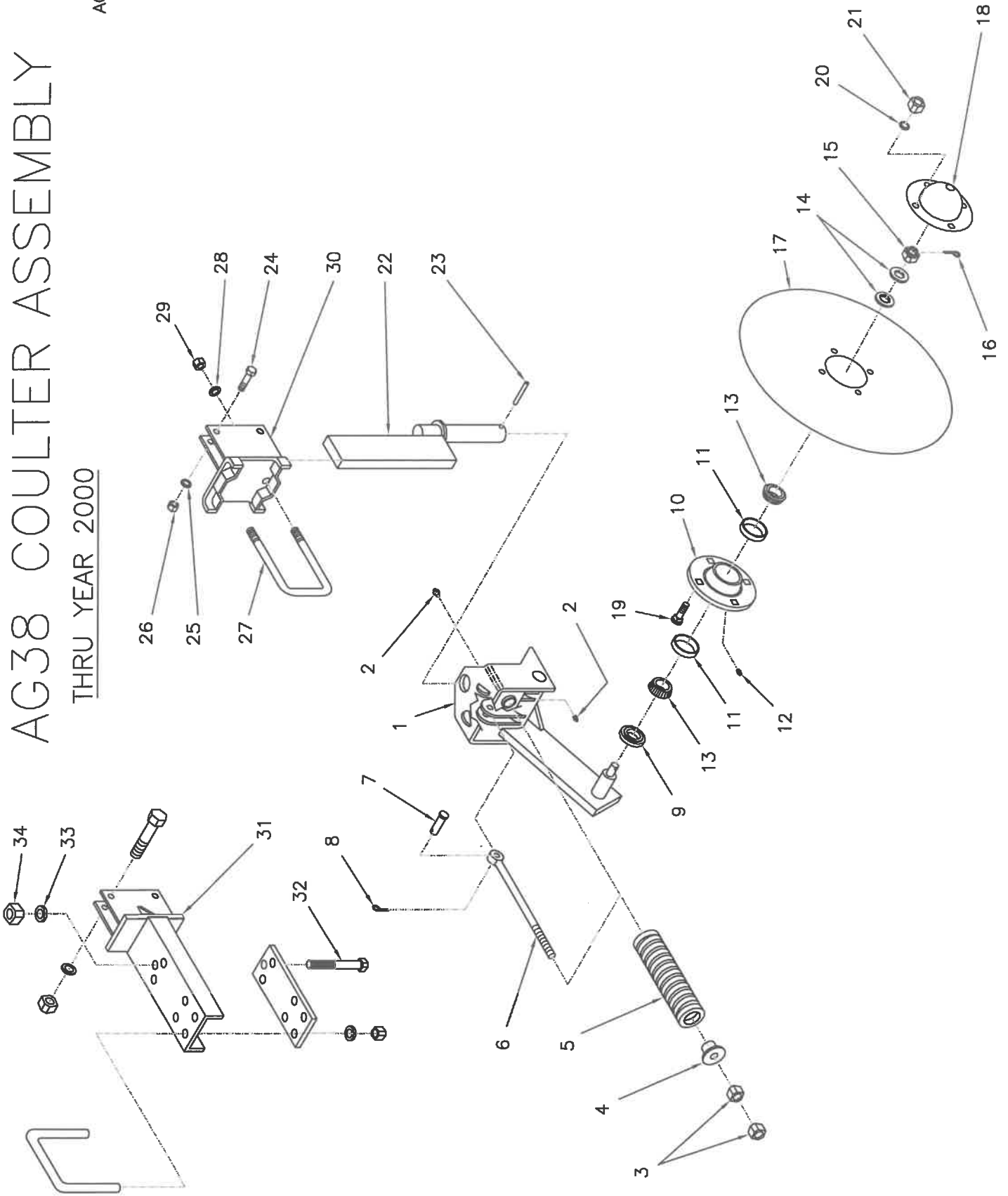
THRU YEAR 2000



AG38 COULTER ASSEMBLY

THRU YEAR 2000

AG38ISO



AG38 COULTER ASSEMBLY

AG38LSTA

MOUNTING INSTRUCTIONS AND PARTS LIST

1. Your AG38 coultter blade and main bracket are pre-assembled at the factory, and the trip springs are pre-loaded to provide 525 pounds blade pressure. This should be adequate for normal field conditions. The coultter arm should trip up only when hitting a solid obstruction. During your field operation, check to make sure the coultter arm is staying rigid most of the time. Excessive flexing will cause premature spring failure. If repeated tripping is occurring tighten the spring tension till rigid operation is achieved
2. Assemble the swivel bar (item 22) to the main bracket (item 1). Make sure that the 1 x 3 flat bar is positioned between the half moon stops on top of the main bracket. Install the roll pin (item 23).
3. Position the mounting brackets (item 30) at the desired spacing and fasten with the U-bolts (item 27) and hardware (item 28 and item 29).
4. Install the coultter assemblies to the mounting brackets (item 30) and fasten with the bolts (item 24) and hardware (items 25 and 26). Assemble the hardware snug only.
5. Adjust the coultter blades to the desired depth and tighten hardware (item 24, item 25 and item 26) securely.
6. Make sure all hardware is tightened securely.
7. During field operation, grease the coultter blade hubs daily with one shot of good quality grease. Do not over grease so that grease is forced past the seal lip. This will roll-over the sealing lip, damage the seal and allow contaminants to enter the hub and damage the bearing.

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1	47308805	BLADE AND BRACKET ASSEMBLY INCLUDES ITEMS 1 TO 21	1	27	47006951	WHEN ORDERING, PLEASE SPECIFY SIZE OF TUBE U-BOLT, 5/8-11NC. (4 X 6 BAR) STD.	1
2	47308729	MAIN BRACKET	2		47306659	U-BOLT, 5/8-11NC. (2 1/2" BAR) (2)	OPT.
3	18901805	GREASE ZERK, STRAIGHT	2		47306677	U-BOLT, 5/8-11NC. (3" BAR) (2)	OPT.
4	18407900	HEX. NUT, 5/8-11NC.	2		44001616	U-BOLT, 5/8-11NC. (4 X 4 BAR) (2)	OPT.
5	47301530	SPRING CAP	2		47306830	U-BOLT, 5/8-11NC. (6" BAR) (2)	OPT.
6	47301524	COMPRESSION SPRING	2		47302730	U-BOLT, 1/2-13NC (7" BAR) (2)	OPT.
7	47301547	EYE BOLT, SPRING RETAINER	2	28	18891600	LOCKWASHER, 5/8	2
8	18541428	CLEVIS PIN, 1/2 X 1 3/4	2			WITH OPT. 5/8" U-BOLT (4) REQ'D.	
9	18560722	COTTER PIN, 5/32 X 1	2		18891400	LOCKWASHER, 1/2	2
10	47301999	BEARING BUSHING	1	29	18417900	HEX. NUT, 5/8-11NC. (4) REQ'D.	2
11	47302400	HUB WITH CUPS & GREASE ZERK	1		18417400	HEX. NUT, 5/8" U-BOLT (4) REQ'D.	2
12	47005010	INCLUDES ITEMS 11 AND 12	2	30	47309893	MOUNTING BRACKET, 4" BAR (OFFSET)	1
13	18901805	BEARING CUP	2		47309887	MOUNTING BRACKET, 2 1/2" BAR	OPT.
14	47305035	GREASE ZERK, STRAIGHT	1			(JOHN DEERE)	
15	18801600	BEARING CONE, 1 1/4 I.D.	2	31	47309732	MOUNTING BRACKET, 3" BAR	OPT.
16	18488000	FLATWASHER, 5/8	1		47309907	MOUNTING BRKT. (EXTENDED) 3" BAR	OPT.
17	18560722	SLOTTED NUT, 5/8-18NF.	1		47309888	MOUNTING BRACKET, 6" BAR	OPT.
18	47305027	COTTER PIN, 5/32 X 1	1		47309736	MOUNTING BRACKET, 7" BAR	OPT.
19	18177131	COULTER BLADE, 20" RIPPLED	1		47999370	BRACKET, UNIV. MT FOR 1 X 2 COMP.	OPT.
20	47305227	DUST CAP, (BOLT ON)	4			OPTION FOR 6 X 4 OR 4 X 4 BAR	OPT.
21	18177131	CARRIAGE BOLT, 1/2-13NC. X 1 1/2	4		47994604	BRACKET, UNIV. MT FOR 1 1/4 COMP.	OPT.
22	18891400	LOCKWASHER, 1/2	4			OPTION FOR 6 X 4 OR 4 X 4 BAR	OPT.
23	47303811	HEX NUT, 1/2-13NC.	1	32	18058436	BOLT, 3/4-10NC. X 3	1
24	47309811	COULTER SWIVEL BAR, 18"	1	33	18891800	LOCKWASHER, 3/4	1
25	18511032	COULTER SWIVEL BAR, 12"	OPT	34	18418400	HEX. NUT, 3/4-10NC.	1
26	18057434	ROLL PIN, 1/4 X 2 1/4	2			INCLUDES ITEMS SHOWN EXCEPT ITEMS 32, 33 & 34	
27	18057434	BOLT, 1/2-13NC. X 2 1/2	2				
28	18891400	LOCKWASHER, 1/2	2				
29	18417400	HEX. NUT, 1/2-13NC.	2				

WHEN USING THIS BRACKET DELETE ITEMS 24 TO 30

PROCEDURE TO SERVICE A COULTER HUB

The factory procedure to assemble the coulter hub has been developed to obtain maximum life and eliminate damage to components. IT IS IMPORTANT to understand and follow this procedure when servicing the coulter hubs. If possible, obtain an illustration of the coulter before proceeding.

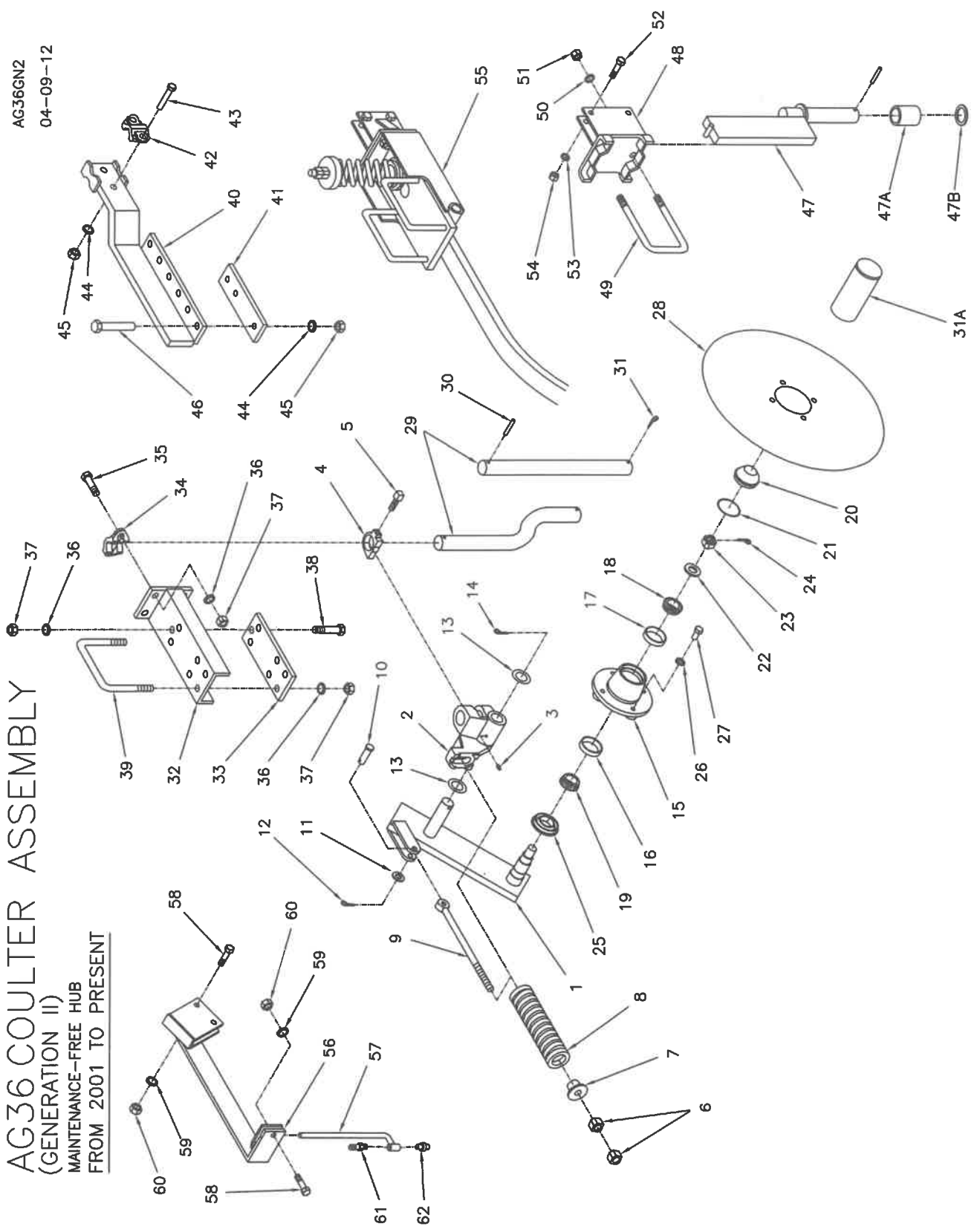
ASSEMBLE THE COULTER HUB AS FOLLOWS:

1. Assemble the steel pre-seal (item 9 on the illustration) on the spindle so that the flat surface is next to the arm and the machined shoulder is facing the inner bearing cone. This performs as a dust and dirt pre-seal.
2. CAUTION: Do not put the bearing cone on the spindle at this time.
3. Install the bearing cone into the hub. You will note that the bearing has the grease seal molded to the outer edge. The seal has two sealing surfaces. The inner surface (nearest the rollers) is the grease seal and the outer surface is the dust seal. Hold the bearing as square as possible to the hub and with hand pressure only, push the bearing into the hub until the inner seal is seated squarely against the bearing cup inside the hub and the outer seal is approximately 3/16 inch inside the casting.
4. Hold the bearing in place and install the hub on the spindle. Note: It is not recommended that you put the bearing on the spindle and then push the hub over the bearing. There is a possibility that you might roll-over the inner seal and damage the seal.
5. With the hub firmly in place on the spindle, install the outer bearing cone into the hub. Push the bearing into the hub until the inner seal is seated squarely against the bearing cup inside the hub. Refer to step 3.
6. Install the two flat washers (item 14) and the spindle nut (item 15) and while rotating the hub by hand, tighten the nut until the hub locks up. Then back off the nut until the hub rotates freely. Check to make sure the seals do not rotate on the spindle. The hub rotates around the seal. Then install the cotter pin (item 16).
7. Grease the hub. PROPER GREASING is as important as proper seal installation!! Over greasing could "roll-over" the inner seal and allow dirt and moisture to enter the bearing. Watch the outer lip of the seal. Grease the bearing until you notice some lifting of the sealing lip. Rotate the hub. This will re-distribute the grease and you may be able to add some grease. DO NOT over-grease so that the grease is forced out past the grease seal, if this happens, disassemble and make sure the seal lips are in proper position, not rolled-over. Re-assemble and re-adjust.
8. You may now assemble the blade and the dust cap. During field operation, adding one shot of grease per day should be adequate. Check the coulter blades periodically for wobble. This could be the result of hitting rocks and/or normal wear. Re-adjust the bearing tension (refer to step 6). Wobble in the hub could damage the seal and cause bearing failure.

AG36 COULTER ASSEMBLY

(GENERATION II)
 MAINTENANCE-FREE HUB
 FROM 2001 TO PRESENT

AG36GN2
 04-09-12



AG36 COULTER ASSEMBLY (GENERATION II)
MAINTENANCE-FREE HUB
MOUNTING INSTRUCTIONS AND PARTS LIST

AG36GN2LS
01/28/22

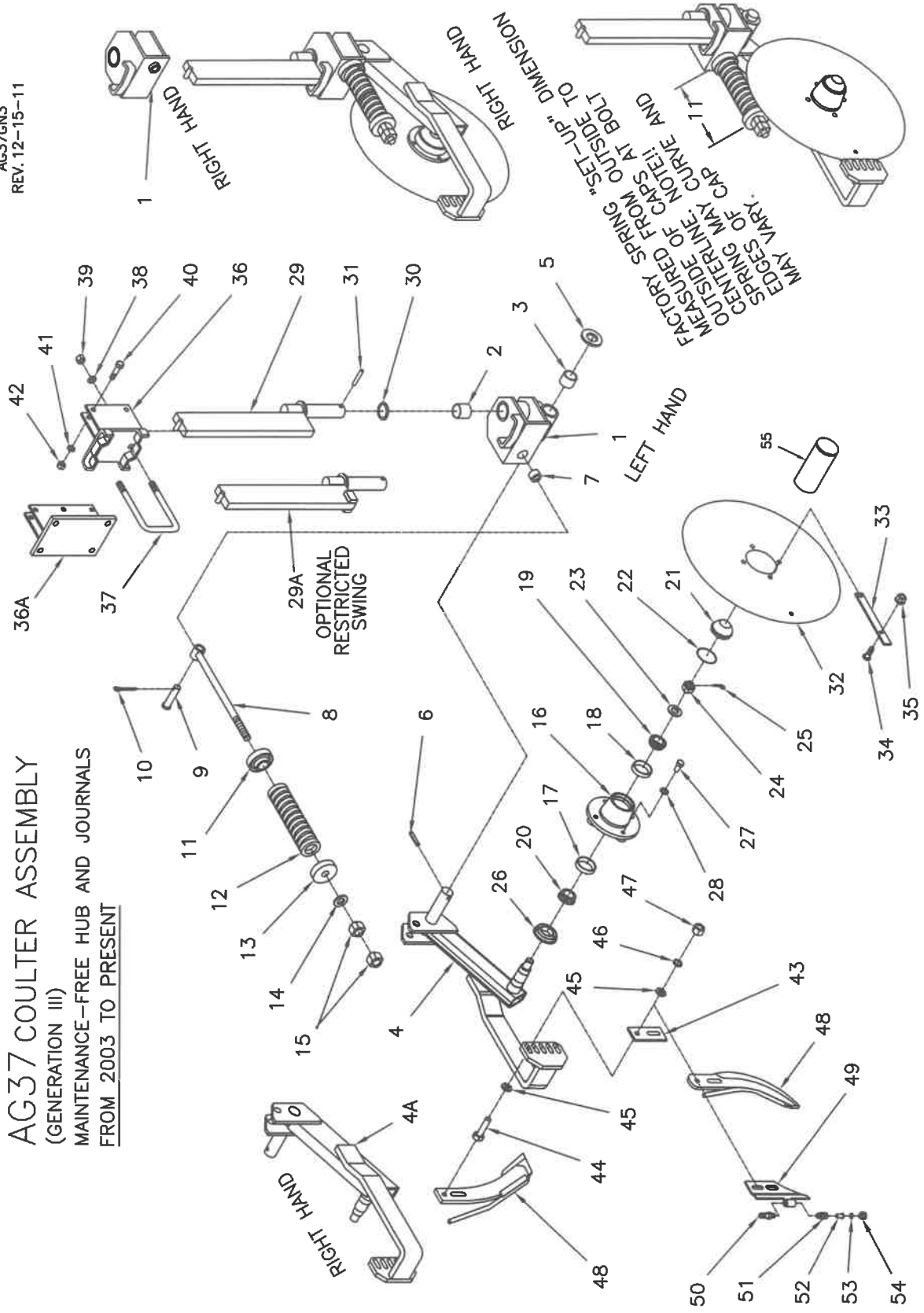
- Your AG36 main bracket and hub are pre-assembled at the factory, and the trip spring is pre-loaded to provide 250 pounds blade pressure. This should be adequate for normal field conditions. The coultter arm should trip up only when hitting a solid obstruction. During your field operation check to make sure the coultter arm is staying rigid most of the time. Excessive flexing will cause premature spring failure. If repeated tripping is occurring, tighten the spring tension until rigid operation is achieved.
- Assemble the blade (item 28) to the hub.
- Round Type Coultter mount: Insert the shank (item 29) into the castings (item 2) and (item 4) simultaneously and insert cotter pin (item 31). Position the shank so not rub on the casting and securely tighten the set screw.
(Rect. 1 x 3 type Coultter mount) Insert the rect. shank (item 47) into the rect mtg bracket (item 48) and tighten nuts (item 52) to hold rect. shank in place. Install spacer bushing (item 47A) onto item 47, then install coultter casting (item 2) and slide on retaining washer (item 47B) and secure these items with the with rollpin.
- Position the coultter mounting brackets at the desired spacing and fasten securely. NOTE: There are a number of types and styles of brackets shown.
- Assemble the coultter shank to the mounting bracket. Adjust the blade to the desired depth and tighten the hardware. Make sure all hardware is securely tightened.
- Install the upper roll pin on round shank types (item 30). Grease the bracket casting (item 2). During field operation grease this casting weekly. And grease for end-of-season storage.
- The coultter hub is greased-for-life and should need no regular maintenance. Check for damage to the dust cap and grease seal daily.

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1	47309189	BLADE AND ARM ASSEMBLY	1	32	47308184	ON 4 X 4 TOOLBAR WITH 1 1/4 SHANK	1	47	47303811	FLAT BAR COULTTER SHANK, 18" OPT.	1
2	47109189	INCLUDES ITEMS 1 TO 28	1	33	47309406	SHANK HOLDER, 1 1/4 SQUARE SHANK	1	47A	47005287	CASTING SPACER BUSHING, 12" OPT.	1
3	47305037	ARM AND HUB ASSEMBLY (W/O BLADE)	1	34	47301538	CLAMP PLATE, 1 1/4 SQUARE SHANK	1	47B	18300323	RETAINING WASHER 1 1/2" ID OPT.	1
4	18901805	INCLUDES ITEMS 1 TO 27	1	35	18057940	BOLT, 5/8-11NC. X 3 1/2	4				
5	47301531	ARM ASSEMBLY	1	36	18891600	LOCKWASHER, 5/8	9				
6	18767324	BRACKET DUCTILE CASTING	1	37	18417900	HEX. NUT, 5/8-11NC.	1				
7	18407900	GREASE ZERK, STRAIGHT	1	38	18057938	BOLT, 5/8-11NC. X 3	1				
8	47301530	COULTTER STOP CASTING	1	39	47006950	U-BOLT, 5/8-11NC. (4 X 6 BAR)	2				
9	18767324	SET SCREW, SQ. HEAD, 1/2-13NC. X 1 1/4	1		47006951	U-BOLT, 5/8-11NC. (4 X 4 BAR)	OPT.				
10	18407900	HEX. NUT, 5/8-11NC.	2								
11	47301524	SPRING CAP	1								
12	47301547	COMPRESSION SPRING	1								
13	18541428	EYE BOLT, SPRING RETAINER	1								
14	18841600	CLEVIS PIN 1/2 X 1 3/4	1								
15	18560722	FLATWASHER, SAE 1/2	1								
16	18302403	COTTER PIN, 5/32 X 1	1								
17	18561026	MACHINERY BUSHING, (NARROW) 1 1/4	2								
18	47300350	COTTER PIN, 1/4 X 1 1/2	1								
19	47300351	HUB COMPLETE, (W/O SEAL & BOLTS)	1								
20	47300351	INCLUDES ITEMS 15 TO 21	1								
21	47005010	HUB WITH CUPS, ITEMS 16 & 17	1								
22	47005010	BEARING CUP, INNER	1								
23	47005048	BEARING CUP, OUTER	1								
24	47005548	BEARING CONE, OUTER	1								
25	47005513	BEARING CONE, INNER	1								
26	47980351	DUST CAP	1								
27	47300352	O-RING DUST SEAL	1								
28	47300353	SPINDLE WASHER	1								
29	18560724	SLOTTED NUT, 7/8-14UNF.	1								
30	40030326	COTTER PIN, 5/32 X 1 1/4	1								
31	18891400	GREASE SEAL	1								
32	18057522	LOCKWASHER, 1/2	4								
33	47305027	WHEEL BOLT, 1/2-20NF. X 1	4								
34	47301904	COULTER BLADE, 20" RIPPLED	1								
35	47304131	SHANK, 1 1/2 DIA. STRAIGHT	STD.								
36	47304248	SHANK, 1 1/2 DIA. BENT (4" OFFSET)	OPT.								
37	18511032	SHANK, 1 1/2 DIA. BENT (1" OFFSET)	OPT.								
38	18561030	ROLL PIN, 1/4 X 2 1/4	1								
39	47005500	COTTER PIN, 1/4 X 2	1								
40	47005500	DUSTCAP INSTALLATION TOOL (OPTIONAL)	1								

REF 47300300 SPINDLE ONLY

AG37 COULTER ASSEMBLY
 (GENERATION III)
 MAINTENANCE-FREE HUB AND JOURNALS
 FROM 2003 TO PRESENT

AG37GN3
 REV. 12-15-11



AG37 COULTER ASSEMBLY (GENERATION III)

AG37GN3LS
REV. 01/28/72

MAINTENANCE-FREE HUB AND JOURNALS MOUNTING INSTRUCTIONS AND PARTS LIST

1. Your AG37 Gen III main bracket and hub are pre-assembled at the factory and the trip spring is preloaded to provide 600 pounds blade pressure. This should be adequate for normal field conditions. The coultter arm should trip up only when hitting a solid obstruction. During your field operation check to make sure the coultter arm is staying rigid most of the time. Excessive flexing will cause premature spring failure. If repeated tripping is occurring, tighten the spring tension till rigid normal operation is achieved.
2. Assemble the blade (item 32) to the hub, and (if used) the scraper (item 33) to the blade with the hardware (items 34 & 35).
3. Assemble the swivel bar (item 29) to the bracket assembly. Be sure the swivel bar is positioned between the swivel control lugs on top of the main bracket. Install the washer (item 30) and pin (item 31).
4. Position the mounting bracket (item 36) at the desired spacing and fasten with the u-bolt (item 37) and hardware (items 38 and 39).
5. Install the coultter assemblies in the mounting brackets (item 36) and fasten with the bolts (item 40) and hardware (items 41 and 42). Assemble the hardware snug only.
6. Adjust the coultter blade to the desired depth and tighten the hardware securely.
7. Assemble the knife (item 48) to the coultter assembly with the shims (item 43), bolts (item 44) and hardware (items 45, 46 and 47). Select and install the shims in a manner so that as you rotate the blade a complete revolution you see that the point of the knife and the lower area of the knife is behind the blade at all times. The backset knife should be positioned to obtain maximum backswep. Locate the upper bolt to the front of the slot and the lower bolt to the back of the slot. Note, the bolt head should be located next to the bracket (see illustration) and any shims not needed should be placed between the back side of the bracket and the flat washer next to the head of the bolt.
8. The front swept knife should be positioned as close to the blade edge as possible. Zero clearance. This will maintain the blade's trash cutting ability. Rotate the coultter blade to determine the point of maximum eccentric runout of the circumference and adjust the knife to zero clearance at this point. The top of the knife should be away from the blade far enough so that the scraper can pass the top, thick part, of the knife without rubbing the knife. NOTE: The knife position should be inspected frequently and re-adjusted regularly.
9. Make sure all hardware is tightened securely.
10. No field operation lubricating is required. The hubs are sealed and greased for life. The swivel journals are assembled with grease-less bushings. For repair procedure, see separate sheet titled PROCEDURE TO SERVICE A COULTER HUB.

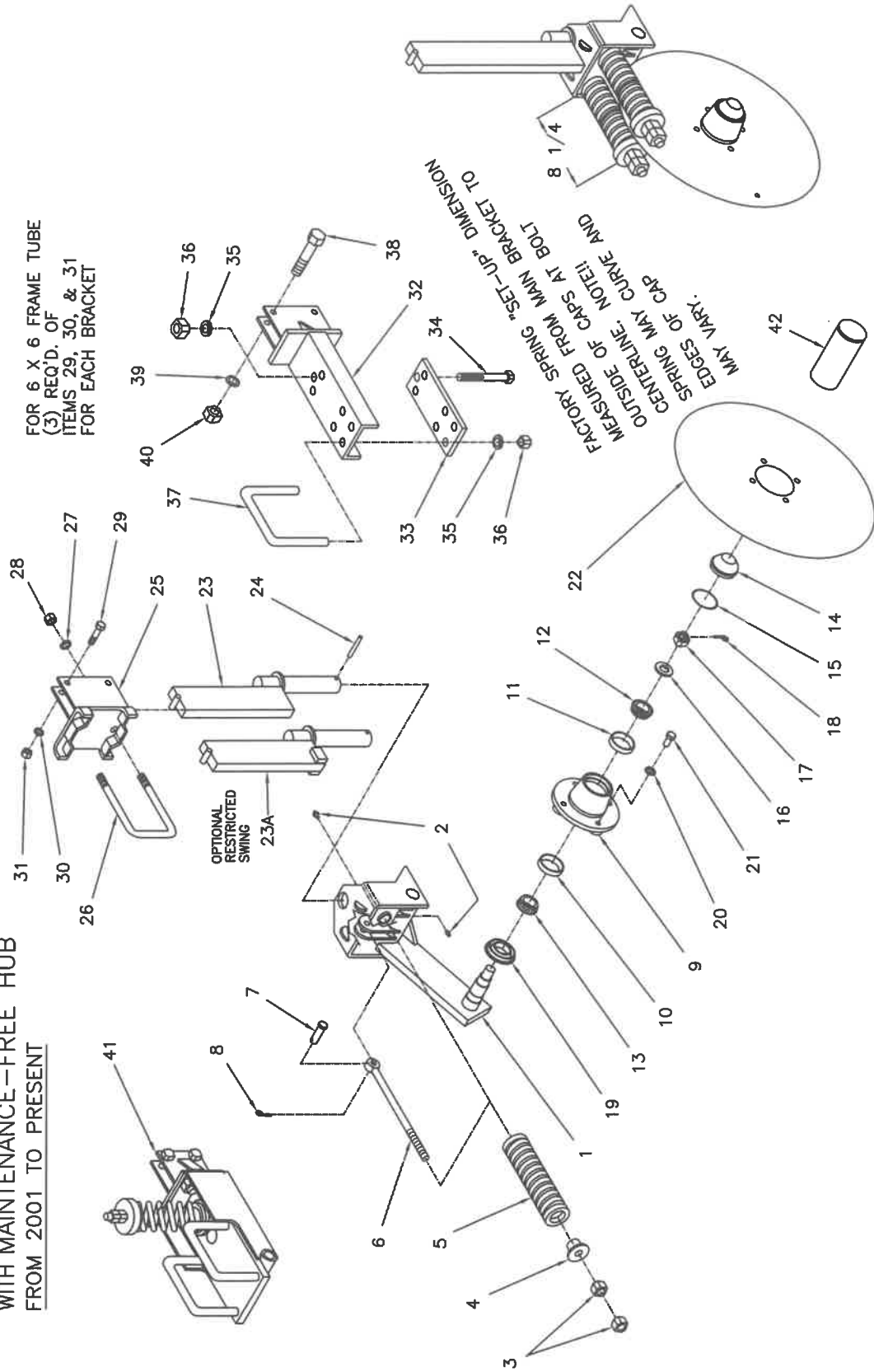
REF 47300300 SPINDLE ONLY

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1	40350000	MAIN BRKT. & BLADE, L.H. (STANDARD)	1	20	47005548	BEARING CONE, INNER	1	37	47010154	U-BOLT, 5/8-11NC. (6"V X 4" H BAR)	1
2	40351000	MAIN BRKT. & BLADE, RIGHT HAND	OPT.	21	47005513	DUST CAP	1	37	47009847	U-BOLT, 5/8-11NC. (6"V X 6" H BAR)	1
3	47304500	INCLUDES ITEMS 1 TO 32	1	22	47990351	O-RING DUST SEAL	1	36A	47309736	MOUNTING BRACKET, (7" VERTICAL)	1
4	47314500	MAIN BRKT. W/HUB, L.H. (STANDARD)	1	23	47300352	SPINDLE WASHER	1	37	47302730	U-BOLT, 1/2-13NC. (7"V X 7" H BAR)	2
5	47004500	MAIN BRKT. W/HUB, RIGHT HAND	OPT.	24	47300353	SLOTTED NUT, 7/8-14UNF	1	38	18891400	LOCKWASHER, 1/2	4
6	47009954	INCLUDES ITEMS 1 TO 31 (W/O BLADE)	1	25	18560728	COTTER PIN, 5/32 X 1 1/2	1	39	18417400	HEX. NUT, 1/2-13NC	4
7	47009953	HOUSING W/BUSHINGS, L.H. (STD)	1	26	40030326	GREASE SEAL	1	38	18891600	LOCKWASHER, 5/8	2
8	47004507	HOUSING W/BUSHINGS, RIGHT HAND	OPT.	27	18057522	WHEEL BOLT, 1/2-20NF X 1	1	39	18417900	HEX. NUT, 5/8-11NC.	2
9	47004507	PIVOT BUSHING, 1 1/2 I.D.	2	28	18891400	LOCK WASHER, 1/2 I.D.	4	40	18057434	BOLT, 1/2-13NC. X 2 1/2	2
10	47014507	PIVOT ARM, L.H. FRONT SWEPT KNIFE	1	29	47304522	COULTER SWIVEL BAR, 18" STANDARD	1	41	18891400	LOCKWASHER, 1/2	2
11	47014507	PIVOT ARM, R.H. FRONT SWEPT KNIFE	OPT.	29	OPTIONAL	10. DEG. AND 15 DEG. AVAILABLE.	4	42	18417400	HEX. NUT, 1/2-13NC.	2
12	18300326	RETAINING WASHER, 1 3/8 I.D.	1	29A	47005144	18" BAR 10' RESTR. SWING (BOTH WAYS)	1	43	47306661	SHIM, 1/4	1
13	18511035	EXPANSION PIN, 3/8 X 2	1		47005144L	18" BAR 10' RESTR. SWING LH ONLY	1	44	47306662	SHIM, 1/8	1
14	2-6668	EYE BOLT GUIDE	1		47005144R	18" BAR 10' RESTR. SWING RH ONLY	1	45	18057432	BOLT, 1/2-13NC. X 2 1/4	2
15	18541835	EYE BOLT SPRING RETAINER	1		47005145	18" BAR 15' RESTR. SWING (BOTH WAYS)	1	46	18811400	FLATWASHER, 1/2	2
16	18541835	CLEVIS PIN, 3/4 X 2 1/2	1		47005145L	18" BAR 15' RESTR. SWING LH ONLY	1	47	18417400	HEX. NUT, 1/2-13NC	2
17	18560726	COTTER PIN, 5/32 X 1 1/2	1		47005145R	18" BAR 15' RESTR. SWING RH ONLY	1	48	47309742	LIQUID KNIFE (FRONTSWEPT)	OPT.
18	47004521	SPRING CAP, WITH COUNTER-BORE	1			CALL AG SYSTEMS FOR INFO.	1	49	47309742	LIQUID KNIFE (FRONTSWEPT)	OPT.
19	47007565	COMPRESSION SPRING	1	30	18300323	RETAINING WASHER, 1 1/2 I.D.	1	49A	473097038	NOZZLE BRACKET (L.H.) (STANDARD)	OPT.
20	47007085	SPRING CAP, STANDARD CASTING	1	31	18511036	EXPANSION PIN, 3/8 X 2 1/4	1	50	100859	HOSEBARB, S.S. 1/4 NPT. X 1/2 TUBE	1
21	18851800	FLAT WASHER, 3/4	1	32	47305027	COULTER BLADE, 20" RIPPLED	1	51	504015	STREAM STABILIZER	1
22	18446890	HEX. NUT, 3/4-10NC	2	ITEMS 33 TO 35	OPT. USE W/FRONT SWEPT KNIFE ONLY		1	52	504015	SELECT FROM ORIFICE CHART	1
23	47300350	HUB COMPLETE (W/O SEAL & BOLTS)	1	33	47306921	SCRAPER	1	53	503127	CAP	1
24	47300351	HUB WITH CUPS ITEMS 17 & 18	1	34	18033810	BOLT, 3/8-16NC. X 1, TRUSS HEAD	1	54	47005500	DUST CAP INSTALLATION TOOL (OPTIONAL)	1
25	47005510	BEARING CUP, INNER	1	35	18496800	HEX. NUT, 3/8-16NC. FLANGED	1				
26	47005010	BEARING CUP, OUTER	1	36	47309893	MOUNTING BRACKET, (4" VERTICAL) STD.	1				
27	47005010	BEARING CUP, OUTER	1	37	47006951	U-BOLT, 5/8-11NC. (4"V X 6" H BAR)	1				
28	47005048	BEARING CONE, OUTER	1	37	44001616	U-BOLT, 5/8-11NC. (4"V X 4" H BAR)	1				
29	47005048	BEARING CONE, OUTER	1	36	47309888	MOUNTING BRACKET, (6" VERTICAL)	OPT.				

AG38 COULTER ASSEMBLY

GENERATION II
 WITH MAINTENANCE-FREE HUB
 FROM 2001 TO PRESENT

AG38GN2
 REV 10-22-09



AG38 COULTER ASSEMBLY (GENERATION II)

AG38GN2LS
REV.01/28/22

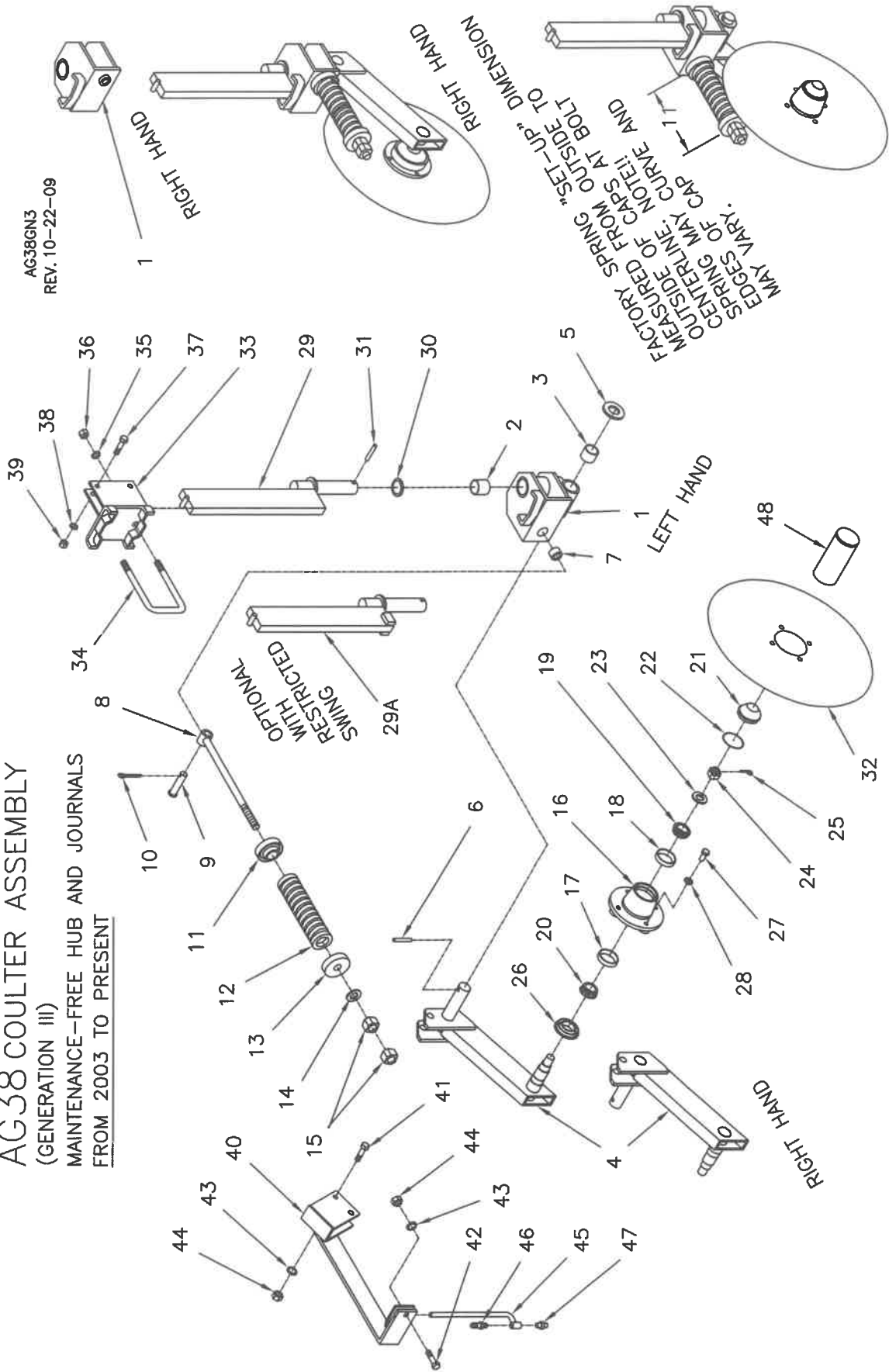
with MAINTENANCE-FREE HUB
MOUNTING INSTRUCTIONS AND PARTS LIST

- Your AG38 main bracket and hub are pre-assembled at the factory, and the trip springs are pre-loaded to provide 525 pounds blade pressure. This should be adequate for normal field conditions. The coultter arm should trip up only when hitting a solid obstruction. During your field operation check to make sure the coultter arm is staying rigid most of the time. Excessive flexing will cause premature spring failure. If repeated tripping is occurring tighten the spring tension till rigid operation is achieved.
- Assemble the blade (item 22) to the hub.
- Assemble the swivel bar (item 23) to the main bracket (item 1). Make sure that the 1 x 3 flat bar is positioned between the half moon stops on top of the main bracket. Install the roll pin (item 24).
- Position the mounting brackets (item 25) at the desired spacing and fasten with the u-bolts (item 26) and hardware (item 27 and item 28).
- Install the coultter assemblies to the mounting brackets (item 25) and fasten with the bolts (item 29) and hardware (item 30 and item 31). Assemble the hardware snug only.
- Adjust the coultter blade to the desired depth and tighten the hardware securely.
- Make sure "all" hardware is tightened securely.
- During field operation grease the swivel bar journals weekly. And grease for end-of-season storage. The coultter hub is greased-for-life and should need no regular maintenance. Check for damage to the dust cap and grease seal daily.

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1	47308805	MAIN BRACKET & BLADE ASSEMBLY INCLUDES ITEMS 1 TO 22	1	31	18417400	HEX. NUT, 1/2-13NC.	2	31	18417400	HEX. NUT, 1/2-13NC.	2
2	47109572	MAIN BRKT. W/HUB ASSEMBLY INCLUDES ITEMS 1 TO 21 (W/O BLADE)	1	32	47999370	UNIV MT BRKT FOR 1 X 2 COMP. OPTION ON 4 X 6 OR 4 X 4 TOOLBARS.	1	32	47999370	UNIV MT BRKT FOR 1 X 2 COMP. OPTION ON 4 X 6 OR 4 X 4 TOOLBARS.	1
3	47309572	MAIN BRACKET	1	33	47006832	CLAMP PLATE	1	33	47006832	CLAMP PLATE	1
4	18901805	GREASE ZERK, STRAIGHT	2	34	18057936	BOLT, 5/8-11NC. X 3	5	34	18057936	BOLT, 5/8-11NC. X 3	5
5	18407900	HEX. NUT, 5/8-11NC.	4	35	18691600	LOCKWASHER, 5/8	1	35	18691600	LOCKWASHER, 5/8	1
6	47301530	COMPRESSION SPRING	2	36	18417900	HEX. NUT, 5/8-11NC.	5	36	18417900	HEX. NUT, 5/8-11NC.	5
7	47301524	EYE BOLT, SPRING RETAINER	2	37	47006950	U-BOLT, 5/8-11NC. (6 X 4 TUBE)	2	37	47006950	U-BOLT, 5/8-11NC. (6 X 4 TUBE)	2
8	18541428	COTTER PIN, 1/2 X 1 3/4	2	38	47009847	U-BOLT, 5/8-11NC. (4 X 4 TUBE)	2	38	47009847	U-BOLT, 5/8-11NC. (4 X 4 TUBE)	2
9	18560722	HUB COMPLETE (W/O SEAL & BOLTS)	1	39	18057434	BOLT, 1/2-13NC. X 2 1/2	2	39	18057434	BOLT, 1/2-13NC. X 2 1/2	2
10	47300350	INCLUDES ITEMS 9 TO 15	1	40	18417400	HEX. NUT, 1/2-13NC.	2	40	18417400	HEX. NUT, 1/2-13NC.	2
11	47300351	HUB WITH CUPS ITEMS 10 & 11	1	41	SEE SEPARATE ILLUSTRATION FOR SPRING BUNDLE PARTS			41	SEE SEPARATE ILLUSTRATION FOR SPRING BUNDLE PARTS		
12	47005510	BEARING CUP, INNER	1	42	47009861	SPRING BUNDLE COMPLETE (1 SPRING) OPT.	1	42	47009861	SPRING BUNDLE COMPLETE (1 SPRING) OPT.	1
13	47005048	BEARING CUP, OUTER	1	43	47029417	COULTER MOUNTING BRKT. COMPLETE	2	43	47029417	COULTER MOUNTING BRKT. COMPLETE	2
14	47005548	BEARING CONE, OUTER	1	44	47006550	DUST CAP INSTALLATION TOOL (OPTIONAL)	1	44	47006550	DUST CAP INSTALLATION TOOL (OPTIONAL)	1
15	47005548	BEARING CONE, INNER	1								
16	47990351	O-RING DUST SEAL	1								
17	47300352	SPINDLE WASHER	1								
18	47300353	SLOTTED NUT, 7/8-14UNF.	1								
19	18560724	COTTER PIN, 5/32 X 1 1/4	1								
20	40030326	GREASE SEAL	1								
21	18057522	WHEEL BOLT, 1/2-20NF. X 1	4								
22	47305027	COULTER BLADE, 20" RIPPLED	4								
23	47303811	COULTER SWIVEL BAR, 18" (INCL ITEM 24) OPT	1								
	OPTIONAL	COULTER BAR W/RESTRICTED SWING 10 DEG. AND 15 DEG. AVAILABLE	1								
	47005147	18" BAR 10" RESTR. SWING (BOTH WAYS)	1								

REF 47300300 SPINDLE ONLY

AG38 COULTER ASSEMBLY
 (GENERATION III)
 MAINTENANCE-FREE HUB AND JOURNALS
 FROM 2003 TO PRESENT



AG38 COULTER ASSEMBLY (GENERATION III)

AG38GN3LS
REV.01/28/22

with MAINTENANCE-FREE HUB MOUNTING INSTRUCTIONS AND PARTS LIST

1. Your AG38 main bracket and hub are pre-assembled at the factory, and the trip springs are pre-loaded to provide 600 pounds blade pressure. This should be adequate for normal field conditions. The coultter arms should trip up only when hitting a solid obstruction. During your field operation check to make sure the coultter arm is staying rigid most of the time. Excessive flexing will cause premature spring failure. If repeated tripping is occurring tighten the spring tension till rigid operation is achieved.
2. Assemble the blade (item 32) to the hub.
3. Assemble the swivel bar (item 29) to the main bracket (item 1). Make sure that the 1 x 3 flat bar is positioned between the u-bracket stop on top of the main bracket. Install the washer (item 30) and roll pin (item 31).
4. Position the mounting brackets (item 33) at the desired spacing and fasten with the u-bolts (item 34) and hardware (item 35 and item 36).
5. Install the coultter assemblies to the mounting brackets (item 33) and fasten with the bolts (item 37) and hardware (item 38 and item 39). Assemble the hardware snug only.
6. Adjust the coultter blade to the desired depth and tighten the hardware securely.
7. Make sure "all" hardware is tightened securely.
8. No field operation lubrication is required. The hubs are sealed and greased for life. The swivel journals are assembled with grease-less bushings. For repair procedure, see separate sheet titled PROCEDURE TO SERVICE A COULTER HUB.

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1	40350001	MAIN BRKT. & BLADE, L.H. (STANDARD)	1	21	47005513	DUST CAP	1	37	18057434	BOLT, 1/2-13NC. X 2 1/2	2
2	40351011	INCLUDES ITEMS 1 TO 32	OPT	22	47990351	O-RING DUST SEAL	1	38	18891400	LOCKWASHER, 1/2	2
3	47304508	MAIN BRKT. W/HUB, L.H. (STANDARD)	1	23	47300352	SPINDLE WASHER	1	39	18417400	HEX. NUT, 1/2-13NC.	2
4	47314508	MAIN BRKT. W/HUB, RIGHT HAND	OPT	24	47300353	SLOTTED NUT, 7/8-14UNF.	1	ITEMS 37, 38, & 39, (3) REQ'D. WITH (6" BAR, VERT.)			
5	47004500	INCLUDES ITEMS 1 TO 31 (W/O BLADE)	1	25	18560726	COTTER PIN, 5/32 X 1 1/2	1	47995062	HI-PRESSURE NOZZLE BRKT. COMPLETE	1	
6	47014500	HOUSING W/BUSHINGS, L.H. (STD.)	1	26	40030326	GREASE SEAL	1	40	47015062	INCLUDES ITEMS 40 TO 45	1
7	47009953	HOUSING W/BUSHINGS, RIGHT HAND	OPT	27	18057522	WHEEL BOLT, 1/2-20NF. X 1	4	41	18057434	BOLT, 1/2-13NC. X 2 1/2	2
8	47009954	SWIVEL BUSHING, 1 1/2 I.D.	2	28	18891400	LOCK WASHER, 1/2	4	42	18057430	BOLT, 1/2-13NC. X 2	1
9	47004508	PIVOT ARM, L.H. STANDARD	2	29	47304522	COULTER SWIVEL BAR, 18"	1	43	18891400	LOCK WASHER, 1/2	2
10	47014508	PIVOT ARM, RIGHT HAND	2	29A	OPTIONAL	COULTER BARS W/RESTRICTED SWING	1	44	18417400	HEX. NUT, 1/2-13NC.	3
11	18300326	RETAINING WASHER, 1 3/8 I.D.	OPT	47005144	18" BAR 10' RESTR. SWING BOTH WAYS	1	45	47008501	NOZZLE BAR	1	
12	2-6668	EXPANSION PIN, 3/8 X 2	1	47005144R	18" BAR 10' RESTR. SWING LH ONLY	1	46	100859	HOSEBAR, 1/4P X 1/2T	1	
13	18511035	EYE BOLT GUIDE	1	47005145	18" BAR 15' RESTR. SWING LH ONLY	1	47	504017	NOZZLE BODY ASSEMBLY (ORIFICE DISK VARIES) SEE AG 37 ILLUSTRATION	1	
14	47004518	EYE BOLT, SPRING RETAINER	1	47005145R	18" BAR 15' RESTR. SWING RH ONLY	1	48	47005500	DUST CAP INSTALLATION TOOL (OPTIONAL)	1	
15	18560726	CLEVIS PIN, 3/4 X 2 1/2	1	CALL AG SYSTEMS FOR INFO.							
16	47004521	COTTER PIN, 5/32 X 1 1/2	1	30	18300323	RETAINING WASHER, 1 1/2 I.D.	1				
17	47007565	SPRING CAP, WITH COUNTER-BORE	1	31	18511036	EXPANSION PIN, 3/8 X 2 1/4	1				
18	47007085	SPRING CAP, STANDARD CASTING	1	32	47305027	COULTER BLADE, 20" RIPPLED	1				
19	18851800	FLAT WASHER, 3/4	1	33	47309893	MOUNTING BRACKET, (4" VERTICAL) STD.	1				
20	18446890	HEX. NUT, 3/4-10NC.	2	34	44001616	U-BOLT, 5/8-11NC. (4" X 4" HORIZ BAR)	2				
16	47300350	HUB COMPLETE (W/O SEAL & BOLTS)	1		47309888	MOUNTING BRACKET, (6" VERTICAL)	1				
17	47005510	HUB WITH CUPS, ITEMS 17 & 18	1		47101054	U-BOLT, 5/8-11NC. (6" X 4" HORIZ BAR)	2				
18	47005010	BEARING CUP, INNER	1		47009847	U-BOLT, 5/8-11NC. (6" X 4" HORIZ BAR)	2				
19	47005048	BEARING CUP, OUTER	1	35	18891600	LOCKWASHER, 5/8	2				
20	47005548	BEARING CONE, INNER	1	36	18417900	HEX. NUT, 5/8-11NC.	2				

REF 47300300 SPINDLE ONLY

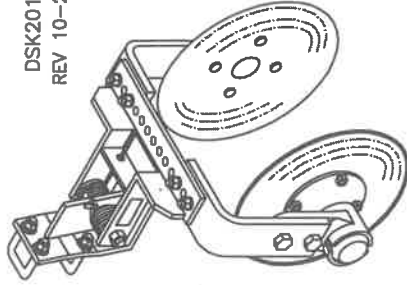
PROCEDURE TO SERVICE A COULTER HUB "MAINTENANCE-FREE" HUB

The factory procedure to assemble the coultter hub has been developed to obtain maximum life and to eliminate damage to the components. IT IS IMPORTANT to understand and follow this procedure when servicing the coultter hub. If possible, obtain an illustration of the coultter before proceeding.

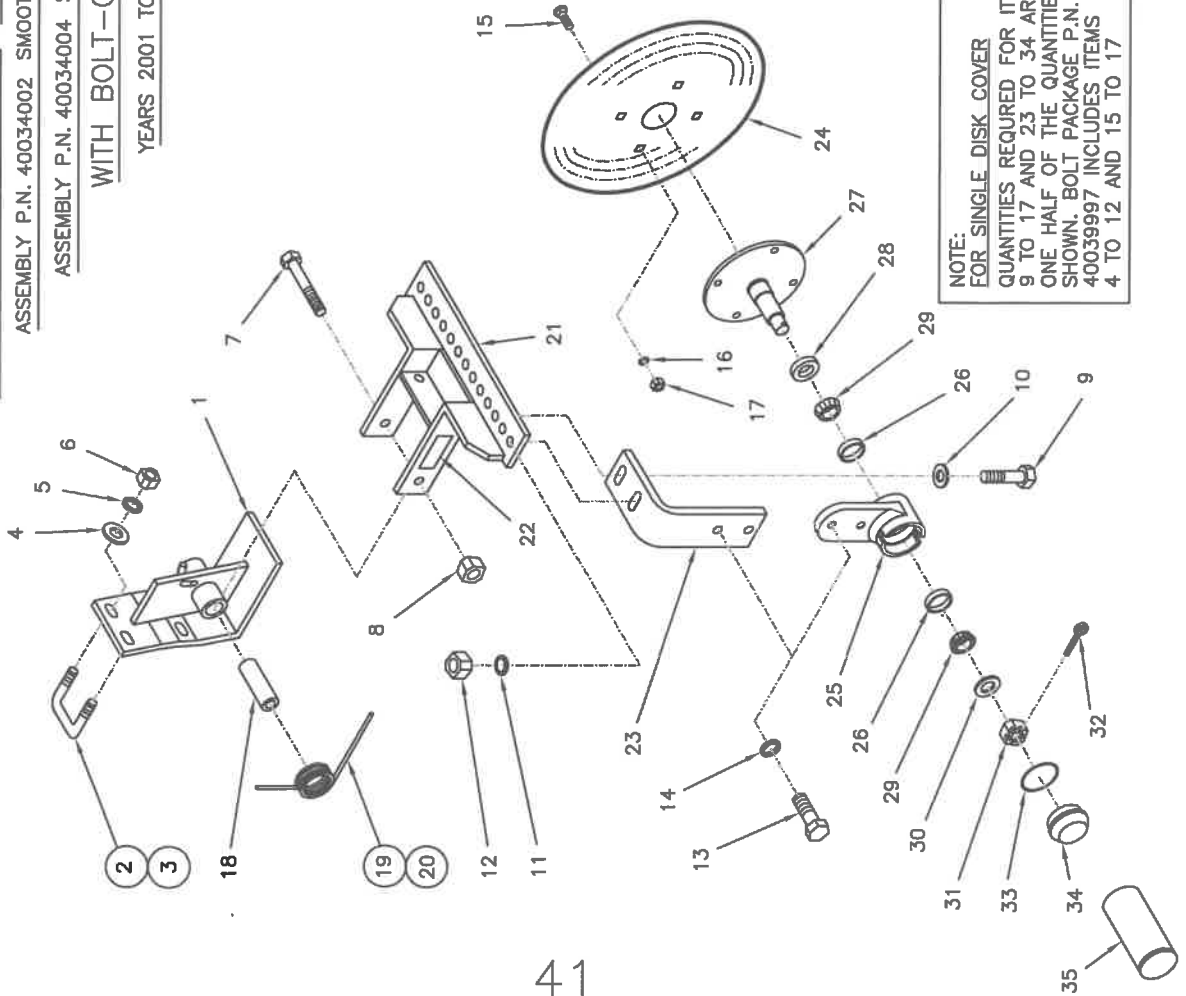
ASSEMBLE THE COULTER HUB AS FOLLOWS.

- 1: Pre-pack the inner bearing cone with grease and insert it into the back of the hub.
- 2: Add grease to cover the back of the bearing and cup. CAUTION – CAUTION : Do not "fill" the back of the hub with grease. Do not get any grease on the sealing seat for the grease seal. The seal is treated with a sealing agent and grease or oil on the sealing surface will destroy the effectiveness of the seal. If there is any grease on the sealing surface in the hub wipe it with a degreasing agent.
- 3: Carefully insert the grease seal. Do not get any grease on the outer sealing surface of the seal. Tap or press the seal in place. Make sure the seal is entering and seating squarely.
- 4: Turn the hub over and fill the center cavity with grease. Pre-pack the outer bearing with grease and insert it into the hub.
- 5: Position the hub on the spindle and install the spindle washer and the slotted nut.
- 6: Rotate the hub by hand while tightening the slotted nut until the hub locks-up. This will align and seat the bearing rollers. Back off the nut until you can freely rotate the hub by hand and install the cotter pin. Bend the ends of the cotter pin "down" only. Not one half up and one half down.
- 7: Completely fill the front cavity of the hub with grease.
- 8: Inspect the hub to make sure it is properly assembled and then install the dust cap.
CAUTION: Once the dust cap is installed it cannot be removed with out destroying it. Take care to be sure the dust cap is square to the bore when starting and seating it. An old dust cap or a piece of tubing with the right I. D. and O. D. may be helpful.
- 9: You may now assemble the coultter blade. During field operation check the coultter blade periodically for wobble. This could be a result of hitting rocks and/or normal wear. Re-adjust the bearing tension (see step 6). Wobble in the hub could damage the seal and cause bearing failure. Note that you will need to install a new dust cap after a bearing adjustment. REVIEW step 8.

DSK201X13
REV 10-22-09



DISC COVER SEALER SPRING LOADED
ASSEMBLY P.N. 40034002 SMOOTH 13" DISC DOUBLE DISC
ASSEMBLY P.N. 40034004 SMOOTH 13" DISC SINGLE DISC
WITH BOLT-ON HUB
YEARS 2001 TO PRESENT



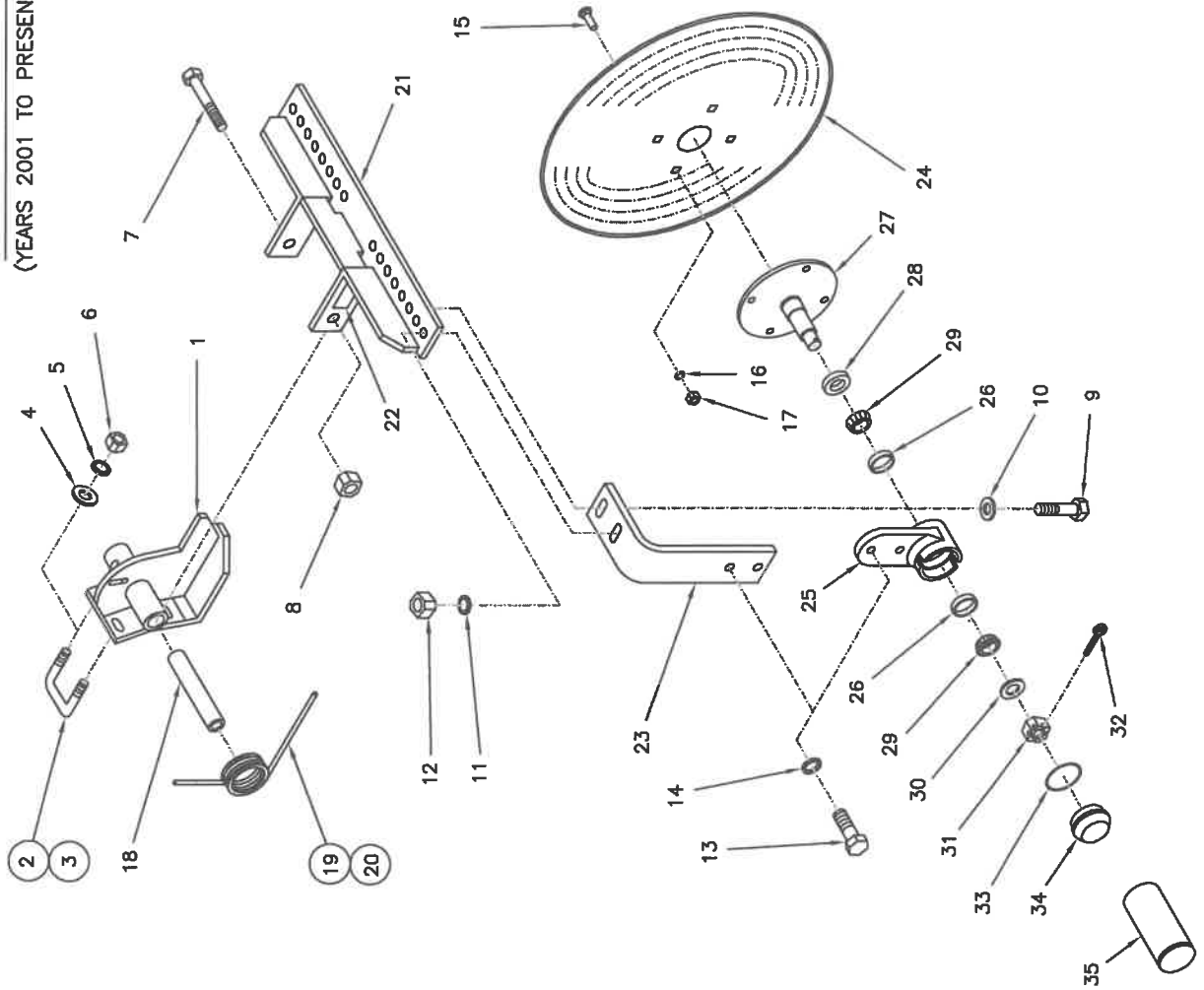
NOTE:
FOR SINGLE DISK COVER
QUANTITIES REQUIRED FOR ITEMS
9 TO 17 AND 23 TO 34 ARE
ONE HALF OF THE QUANTITIES
SHOWN. BOLT PACKAGE P.N.
40039997 INCLUDES ITEMS
4 TO 12 AND 15 TO 17

ITEM PART NO.	DESCRIPTION	QTY.
1 47008367	MOUNTING BRACKET	1
2 47008396	U-BOLT, 1/2-13NC. 2 in. SHANK	2
3 47008397	U-BOLT, 1/2-13NC. 1 1/4 in. SHANK	2
4 18811400	FLATWASHER, 1/2	4
5 18891400	LOCKWASHER, 1/2	4
6 18417400	HEX. NUT, 1/2-13NC.	4
7 18057956	BOLT, 5/8-11NC. X 5 1/2	1
8 18457900	HEX. LOCKNUT, 5/8-11NC.	1
9 18057430	BOLT, 1/2-13NC. X 2	4
10 18811400	FLATWASHER, 1/2	4
11 18891400	LOCKWASHER, 1/2	4
12 18417400	HEX. NUT, 1/2-13NC.	4
13 18057523	BOLT, 1/2-20NF. X 1 1/4	4
14 18891400	LOCKWASHER, 1/2	4
15 18176450	CARRIAGE BOLT, 3/8-16NC. X 1	8
16 18891200	LOCKWASHER, 3/8	8
17 18436800	HEX. NUT, 3/8-16NC	8
18 47009340	INNER BUSHING	1
19 47008375	TORSION SPRING, L.H.	1
20 47008376	TORSION SPRING, R.H.	1
21 47019309	DISC ARM FRAME	1
22 97445302	DECAL, "AG SYSTEMS" SMALL	1
23 47019620	DISC ARM	2
24 44501310	DISC BLADE, 13 INCH DIA.	2
25 47109558	HUB ASSEMBLY COMPLETE	2
26 47009558	INCLUDES ITEMS 13 & 14 & 25 TO 34	2
27 10658	BEARING CUP	4
28 47009328	SPINDLE WITH FLANGE	2
29 40030325	GREASE SEAL	2
30 10659	BEARING CONE	4
31 18841800	FLATWASHER, 3/4 SAE (1 1/2 O.D.)	2
32 18488600	SLOTTED NUT, 5/4-16NF.	2
33 18560722	COTTER PIN, 5/32 X 1	2
34 47999558	O-RING DUST SEAL	2
35 47005911	DUST CAP	2
36 40039999	BOLT PACKAGE INCLUDES ITEMS- 4 TO 6, 8 TO 12, AND 15 TO 17	1
37 47005502	DUST CAP INSTALLATION TOOL (OPTIONAL)	1

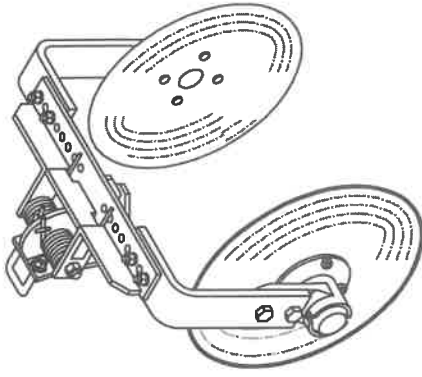
DOUBLE DISC COVER SEALER "SPRING LOADED"

ASSEMBLY P.N. 40034000 SMOOTH 18" DISC
40034001 NOTCHED 18" DISC

WITH BOLT-ON HUB
(YEARS 2001 TO PRESENT)



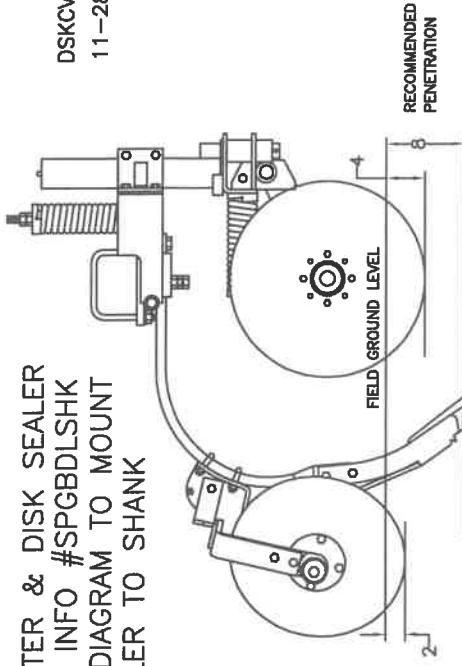
DSK201X18
REV 10-22-09



ITEM	PART NO.	DESCRIPTION	QTY.
1	47019325	MOUNTING BRACKET	1
2	47008396	U-BOLT, 1/2-13NC. 2 in. SHANK	2
3	47008397	U-BOLT, 1/2-13NC. 1 1/4 in. SHANK	2
4	18811400	FLATWASHER, 1/2	4
5	18891400	LOCKWASHER, 1/2	4
6	18417400	HEX. NUT, 1/2-13NC.	4
7	18057972	BOLT, 5/8-11NC. X 7 1/2	1
8	18457900	HEX. LOCKNUT, 5/8-11NC.	1
9	18057430	BOLT, 1/2-13NC. X 2	4
10	18811400	LOCKWASHER, 1/2	4
11	18891400	LOCKWASHER, 1/2	4
12	18417400	HEX. NUT, 1/2-13NC.	4
13	18057523	BOLT, 1/2-20NF. X 1 1/4	4
14	18891400	LOCKWASHER, 1/2	4
15	18176450	CARRIAGE BOLT, 3/8-16NC. X 1	4
16	18891200	LOCKWASHER, 3/8	8
17	18436800	HEX. NUT, 3/8-16NC.	8
18	47009320	INNER BUSHING	1
19	47009326	TORSION SPRING, L.H.	1
20	47009327	TORSION SPRING, R.H.	1
21	47009317	DISC ARM FRAME	1
22	97445302	DECAL, "AG SYSTEMS" SMALL	1
23	47009621	DISC ARM	1
24	44501810	DISC BLADE, SMOOTH EDGE	2
OR	44501811	DISC BLADE, NOTCHED EDGE	OPT.
	47109558	HUB ASSEMBLY COMPLETE INCLUDES ITEMS 13 & 14 & 25 TO 34	2
25	47009558	HUB WITH CUPS ITEM 26	2
26	10658	BEARING CUP	4
27	47009328	SPINDLE WITH FLANGE	2
28	40030325	GREASE SEAL	2
29	10659	BEARING CONE	4
30	18841800	FLATWASHER, 3/4 SAE (1 1/2 O.D.)	2
31	18488600	SLOTTED NUT, 3/4-16NF.	2
32	18560722	COTTER PIN, 5/32 X 1	2
33	47999558	O-RING DUST SEAL	2
34	47005911	DUST CAP	2
	40039999	BOLT PACKAGE INCLUDES ITEMS- 4 TO 6, 8 TO 12, AND 15 TO 17	1
35	47005502	DUST CAP INSTALLATION TOOL (OPTIONAL)	1

SEE COULTER & DISK SEALER
MOUNTING INFO #SPGBDLSHK
DETAILED DIAGRAM TO MOUNT
DISK SEALER TO SHANK

DSKCVRMT1318
11-28-07



ASSEMBLY INSTRUCTIONS

DISC COVER SEALER

- 13 inch and 18 inch (WITH BOLT-ON-HUB)
- 13 INCH (REFER TO DIAGRAM DSK201X13)
- 18 INCH (REFER TO DIAGRAM DSK201X18)

Your disc cover sealer assembly is partially assembled at the factory.

The spindle (item 27) and all hub components are pre-assembled and greased for life.

1. Secure the mounting bracket (item 1) in a vise or assemble to the tool shank or some temporary assembly fixture.
2. Insert the bushing (item 18) into the mounting bracket (item 1). Position the torsion springs (item 19) left hand and (item 20) right hand over the pivot tube on the mounting bracket (item 1). The short legs of the springs should be next to the center gusset on the mounting bracket.
3. Position the disc arm frame (item 21) to the mounting bracket (item 1). Insert the long legs of the torsion springs into the holes in the crossbar on the disc arm frame. Assemble all with the bolt (item 7) and the locknut (item 8). Securely tighten the locknut and bolt so that the inner bushing (item 18) and the disc arm frame rotate as one unit.
4. Increase the tension on the torsion springs by hooking the short leg of the spring behind the retaining lugs welded to the gusset on the mounting bracket. A short length of 3/8 or 1/2 inch pipe will be helpful to bend the spring leg into position behind the lug.
5. Assemble the disc arm (item 23) to the hub assembly with the bolts (item 13) and lock washers (item 14). Secure the disc arm assembly in a vice and assemble the disc (item 24) to the spindle flange with the hardware (items 15, 16 and 17). The disc may be mounted concave to the row or convex (reverse) to the row. There is no difference between left hand or right hand assemblies or single or double disc assemblies.
6. Mount the disc arm assembly to the disc arm frame (item 21) with the bolts (item 9) and the hardware (items 10, 11 and 12) as illustrated with the nut on top of the disc arm frame. The suggested start-up position for a double disc assembly would be to mount the disc arm in the holes in the frame that are farthest to the outside. For a single disc cover or a reversed disc cover, holes farther to the center would be more appropriate. The slotted holes in the disc arm provide the angular adjustment for the disc. Position the disc(s) at the angle desired and securely tighten the hardware.
7. Your disc cover assembly is shipped with (2) U-bolts for a 1 1/4 square shank and (2) U-bolts for a 2 inch wide shank. Select the appropriate U-bolts and mount the disc cover assembly to the shank at the desired operating depth. Securely tighten the hardware.

DOUBLE DISK SEALER ASSEMBLY WITH FLOATING ARMS FOR MODEL 3000 UNITS

FLTGDSKSLR3K
01-17-14

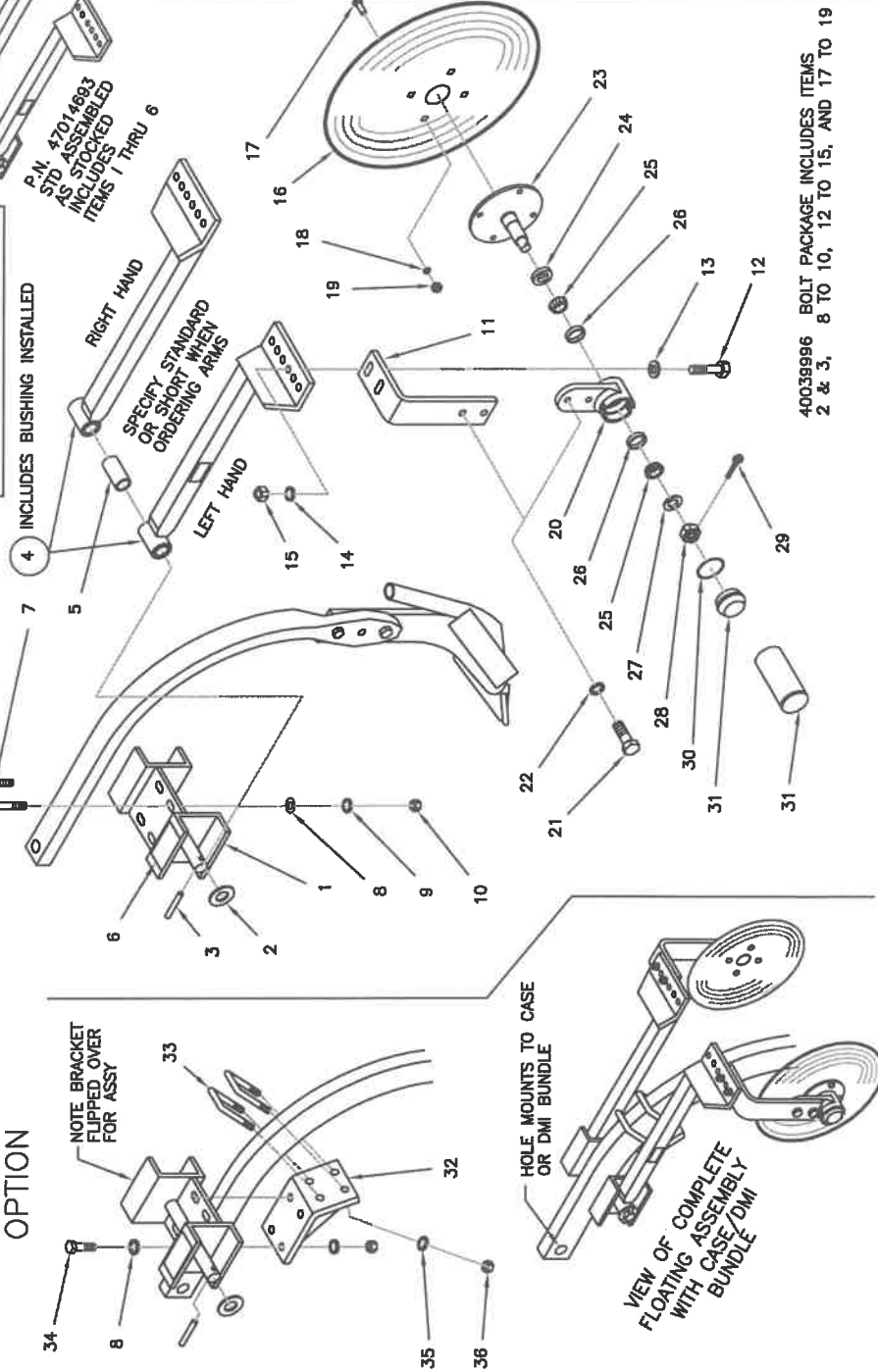
ASSEMBLY P.N.

- STANDARD ARMS 40034010 SMOOTH 18" DISK
- STANDARD ARMS 40034011 NOTCHED 18" DISK
- SHORT ARMS 40034010S SMOOTH 18" DISK

KIT TO CONVERT
EXISTING 18 INCH DISK SEALER
TO STD FLOATING ARM STYLE
P.N. 47994693
INCLUDES ITEMS 1 TO 10

CASE/DMI
SHANK
OPTION

NOTE BRACKET
FLIPPED OVER
FOR ASSY



ITEM	PART NO.	DESCRIPTION	QTY
1	47004693	MOUNTING BRACKET (W/DECAL)	1
2	18652200	FLAT WASHER, 1" SAE, ZC.	2
3	18511036	EXPANSION PIN, 3/8 X 2 1/4	2
4	47004697	PIVOT ARM, STANDARD 18" LH	1
5	47004698	PIVOT ARM, STANDARD 18" RH	1
6	47003966	PIVOT ARM, SHORT, 15" LH	1
7	47003967	PIVOT ARM, SHORT, 15" RH	1
8	47009852	FIBER BUSHING (1" I.D. X 2 1/2)	2
9	97445303	DECAL "AG SYSTEMS" SMALL	1
10	47008396	U-BOLT, 1/2-13NC. (2" SHANK)	1
11	18611400	FLAT WASHER, 1 1/2	4
12	18891400	LOCK WASHER, 1 1/2	4
13	18417400	HEX. NUT, 1 1/2-13NC.	4
14	47009621	DISK ARM	2
15	18057430	BOLT, 1/2-13NC. X 2	4
16	18811400	FLAT WASHER, 1/2	4
17	18891400	LOCK WASHER, 1/2	4
18	18417400	HEX. NUT, 1/2-13NC.	4
19	18417400	HEX. NUT, 1/2-13NC.	4
20	OR 44501810	DISK BLADE, SMOOTH EDGE	2
21	18176450	DISK BLADE, NOTCHED EDGE	2
22	18438800	CARRIAGE BOLT, 3/8-16NC. X 1	8
23	18438800	HEX. NUT, 3/8-16NC.	8
24	47109558	INCLUDES ITEMS 20 TO 31	OPT.
25	47009558	HUB WITH CUPS, ITEM 26	2
26	18057523	BOLT, 1/2-20NF. X 1 1/4	4
27	18891400	LOCK WASHER, 1/2	4
28	40030328	SPINDLE WITH FLANGE	2
29	10689	GREASE SEAL	2
30	10689	BEARING CONE	2
31	18641800	FLAT WASHER, 3/4 SAE (1 1/2 O.D.)	4
32	18488600	SLOTTED NUT 3/4-16NF	2
33	18560722	COTTER PIN 5/32 X 1	2
34	47999558	O-RING DUST SEAL	2
35	47005911	DUST CAP	2
36	47005502	DUST CAP INSTALLATION TOOL (OPTIONAL)	1
37	47005794	FLOATING ARM BRKT CASE/DMI SHANK	1
38	47008397	U-BOLT-AG 3 1/2 X 1 5/16 W	2
39	18057428	BOLT, HEX HD GR5ZC 1/2 X 1 3/4	4
40	18891400	LOCK WASHER, 1/2	4
41	18417400	HEX. NUT, 1/2-13NC.	4

40039996 BOLT PACKAGE INCLUDES ITEMS 2 & 3, 8 TO 10, 12 TO 15, AND 17 TO 19

ASSEMBLY INSTRUCTIONS

DISK COVER SEALER

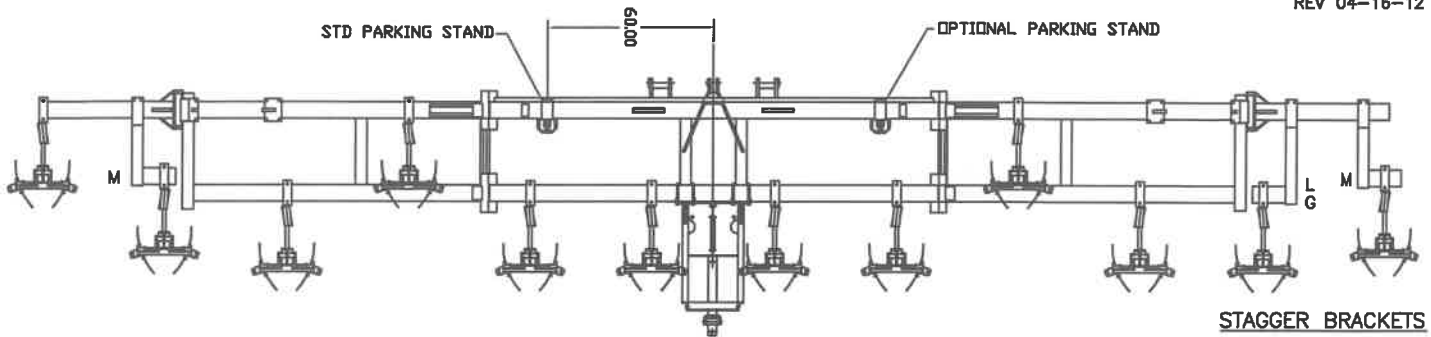
18 INCH WITH FLOATING ARMS

Your disc cover sealer assembly is partially assembled at the factory. The spindle (item 23) and all hub components are pre-assembled and greased for life.

1. Due to the weight of a complete disk sealer assembly, it is recommended that the disk sealer be assembled to a shank already mounted on a toolbar. Position the mounting bracket (item 1) on the bottom side of the shank (as illustrated) and the u-bolt straddling the top of the shank. The mounting bracket should be located on the flat part of the shank. When using the disk sealer with a "Hi-Trip" spring bundle, position the mounting bracket as far forward on the shank as the spring bundle bracket will allow. Securely tighten the hardware.
2. Position the pivot arm (item 4) left hand and right hand, to the mounting bracket (item 1) and assemble with the washers (item 2) and the expansion pins (item 3).
3. Secure the disk arm (item 11) in a vice and assemble the hub assembly to the arm with the bolts (item 21) and lock washers (item 22). Assemble the disk (item 16) to the spindle flange with the bolts (item 17) and hardware items (18 and 19) There is no difference between the left hand and right hand assemblies.
4. Mount the disk arm assemblies to the pivot arms with the bolts (item 12) and hardware (items 13, 14 and 15) as illustrated with the nut on top of the pivot arm plate. The suggested start-up position would be to mount the disk arm in the holes in the pivot arm plate that are farthest to the outside. The slotted holes in the disk arm provide the angular adjustment for the disk. Position the disks at the desired angle and tighten the hardware securely.

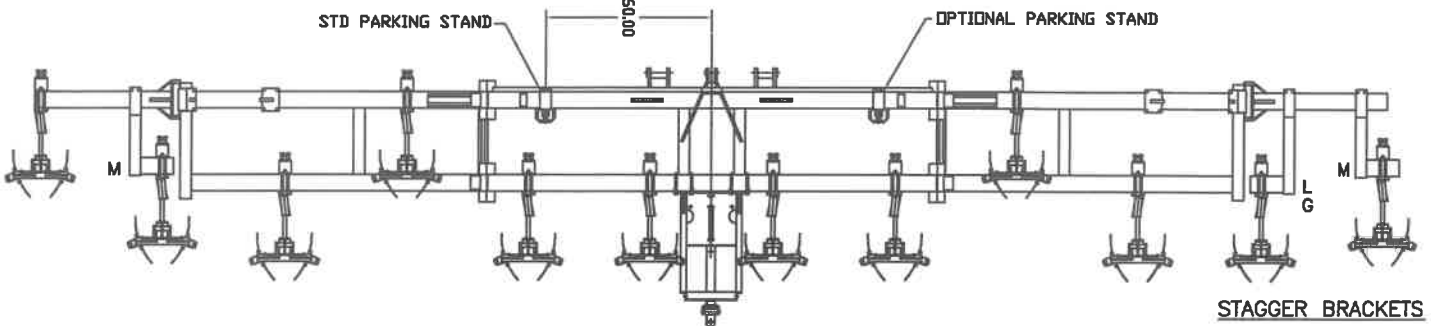
3000 TOOLBAR (SPECIAL)
 44 INCH SPACING, EVEN NUMBER OF ROWS
 18 INCH DISKS SHOWN

IN MANUAL
 3K44SCPL
 10-26-07
 REV 04-16-12



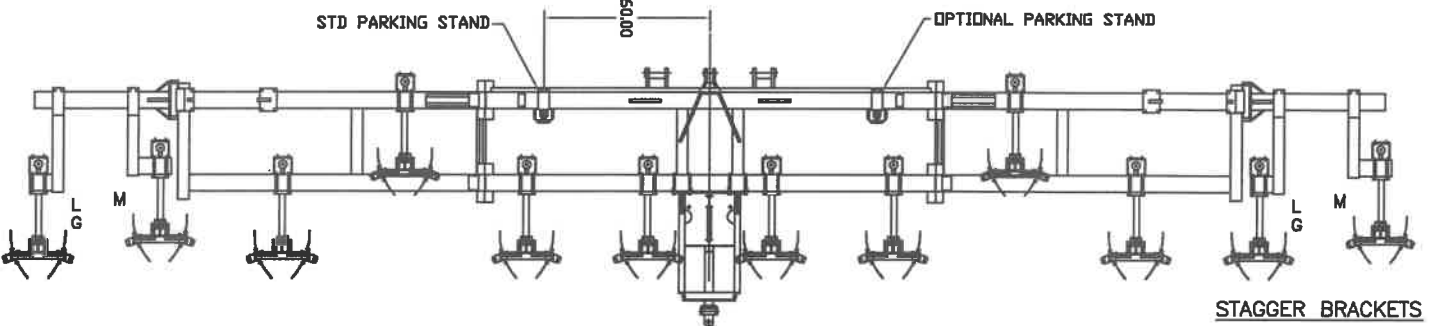
COIL SHANK LOCATIONS, WITHOUT COULTERS
 ON A 42 FT. TOOLBAR

STAGGER BRACKETS
 QTY 2 LONGS
 QTY 1 MEDIUM



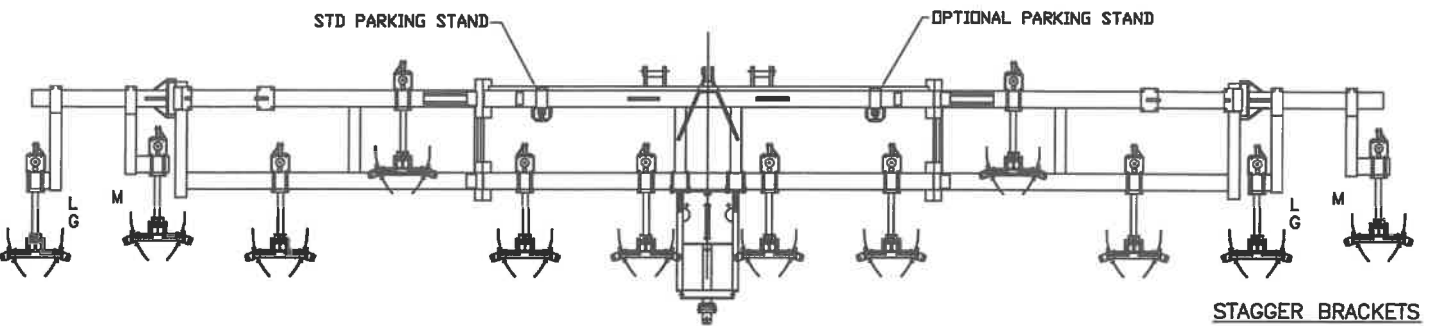
COIL SHANK LOCATIONS, WITH COULTERS
 ON A 42 FT. TOOLBAR

STAGGER BRACKETS
 QTY 2 LONGS
 QTY 1 MEDIUM



SPRING SHANK LOCATIONS WITHOUT COULTERS
 ON A 42 FT. TOOLBAR

STAGGER BRACKETS
 QTY 2 LONGS
 QTY 2 MEDIUMS



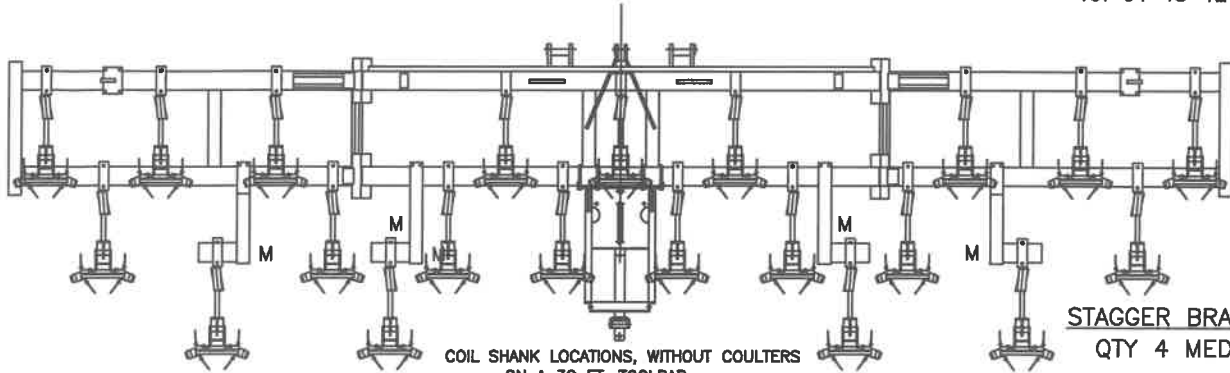
SPRING SHANK LOCATIONS WITH COULTERS
 ON A 42 FT. TOOLBAR

STAGGER BRACKETS
 QTY 2 LONGS
 QTY 2 MEDIUMS

3000 TOOLBAR (STANDARD)
 18 INCH SPACING, ODD NUMBER OF ROWS
 13 INCH DISKS SHOWN

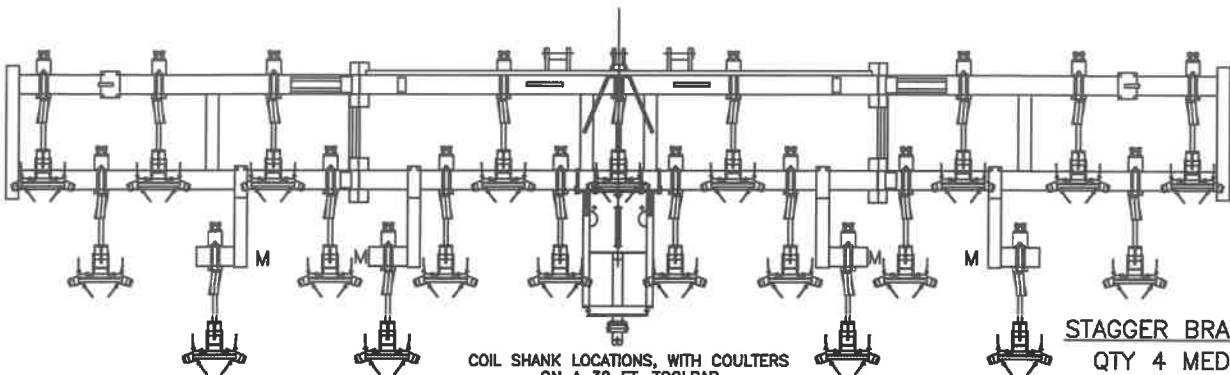
IN MANUAL

3K18STD
 rev 04-13-12



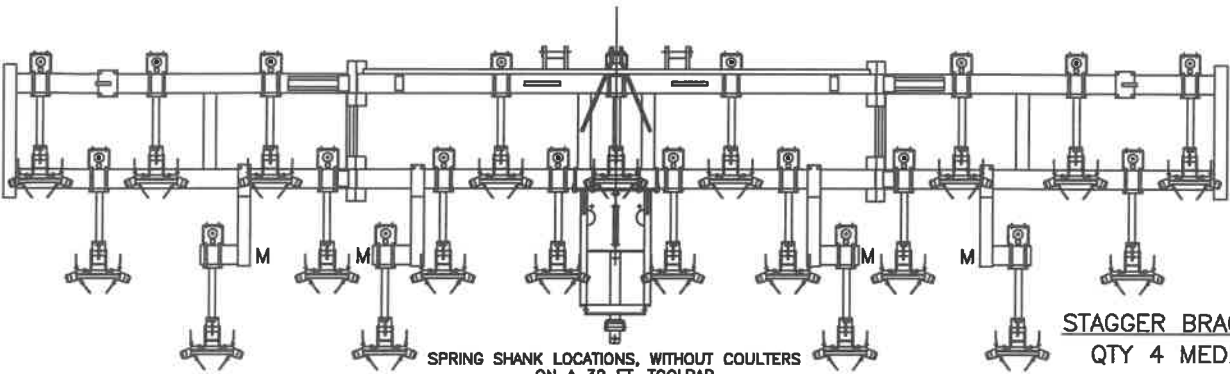
COIL SHANK LOCATIONS, WITHOUT COULTERS
 ON A 32 FT. TOOLBAR

STAGGER BRACKETS
 QTY 4 MEDIUMS



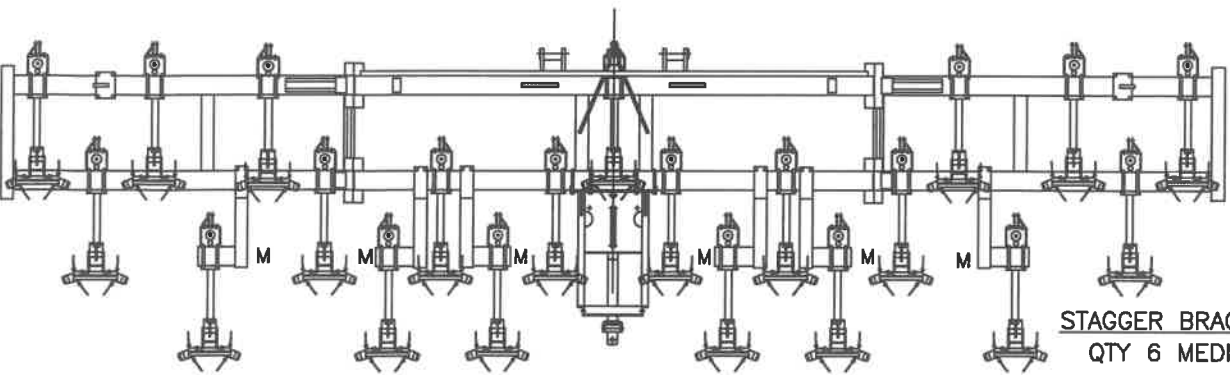
COIL SHANK LOCATIONS, WITH COULTERS
 ON A 32 FT. TOOLBAR

STAGGER BRACKETS
 QTY 4 MEDIUMS



SPRING SHANK LOCATIONS, WITHOUT COULTERS
 ON A 32 FT. TOOLBAR

STAGGER BRACKETS
 QTY 4 MEDIUMS



SPRING SHANK LOCATIONS, WITH COULTERS
 ON A 32 FT. TOOLBAR

STAGGER BRACKETS
 QTY 6 MEDIUMS

3000 TOOLBAR (SPECIAL)

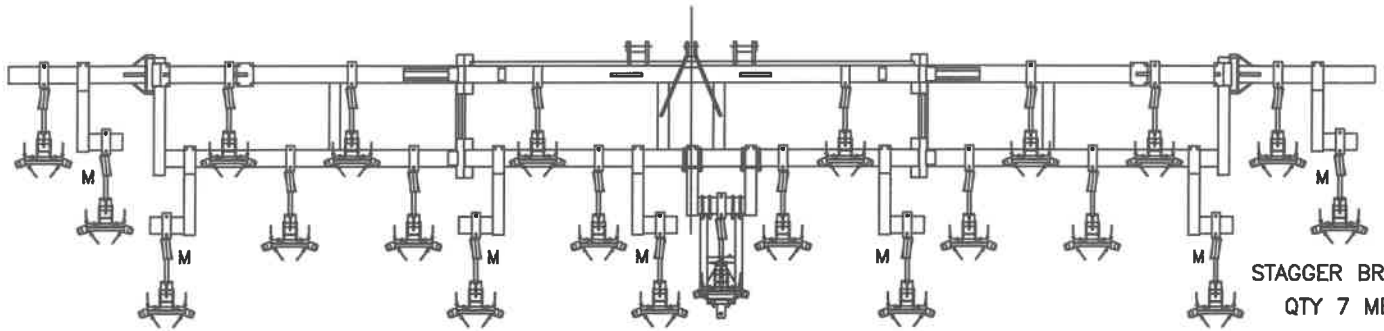
22 INCH SPACING, EVEN NUMBER OF ROWS
WITH AG29 FIELD HITCH ON A SPECIAL BRACKET

13 INCH DISKS SHOWN

IN MANUAL

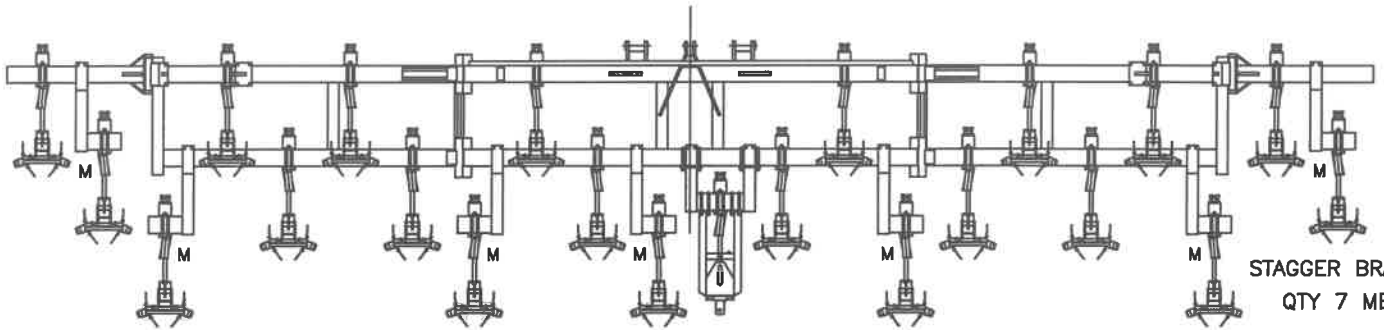
3K22SPCL

rev 04-13-12



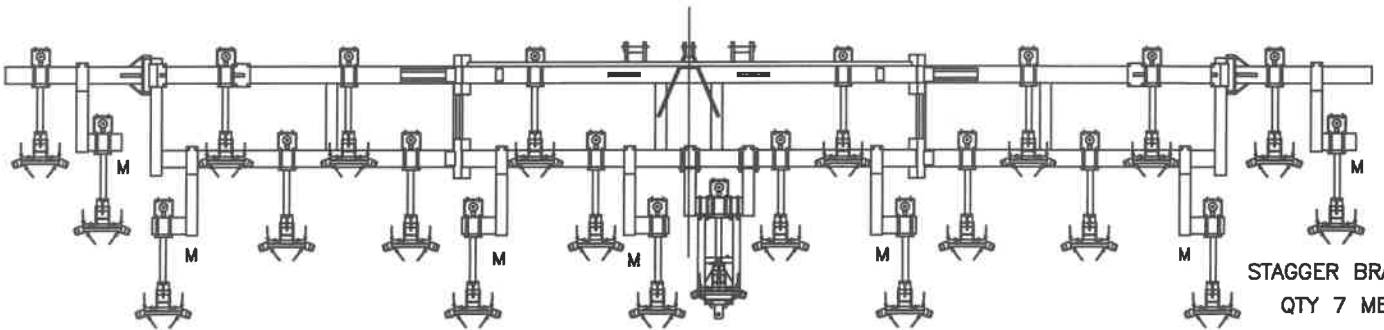
COIL SHANK LOCATIONS, WITHOUT COULTERS
ON A 42 FT. TOOLBAR

STAGGER BRACKETS
QTY 7 MEDIUMS



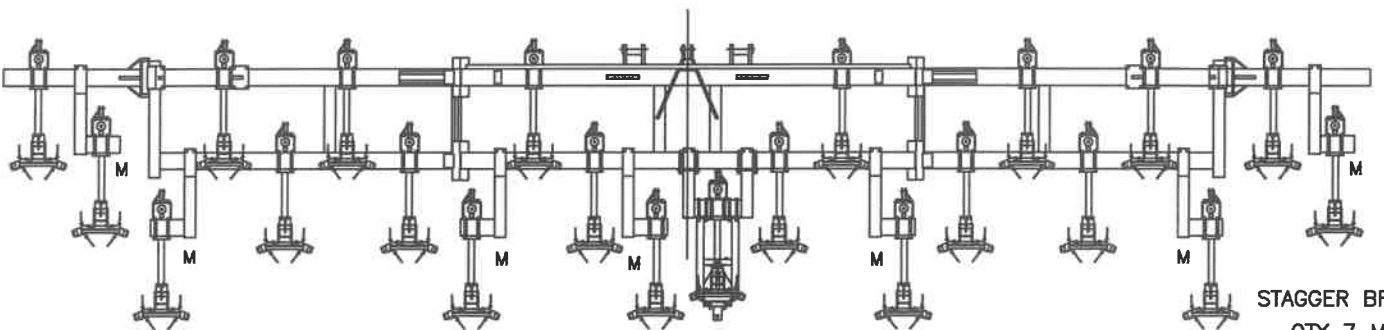
COIL SHANK LOCATIONS, WITH COULTERS
ON A 42 FT. TOOLBAR

STAGGER BRACKETS
QTY 7 MEDIUMS



SPRING SHANK LOCATIONS WITHOUT COULTERS
ON A 42 FT. TOOLBAR

STAGGER BRACKETS
QTY 7 MEDIUMS



SPRING SHANK LOCATIONS WITH COULTERS
ON A 42 FT. TOOLBAR

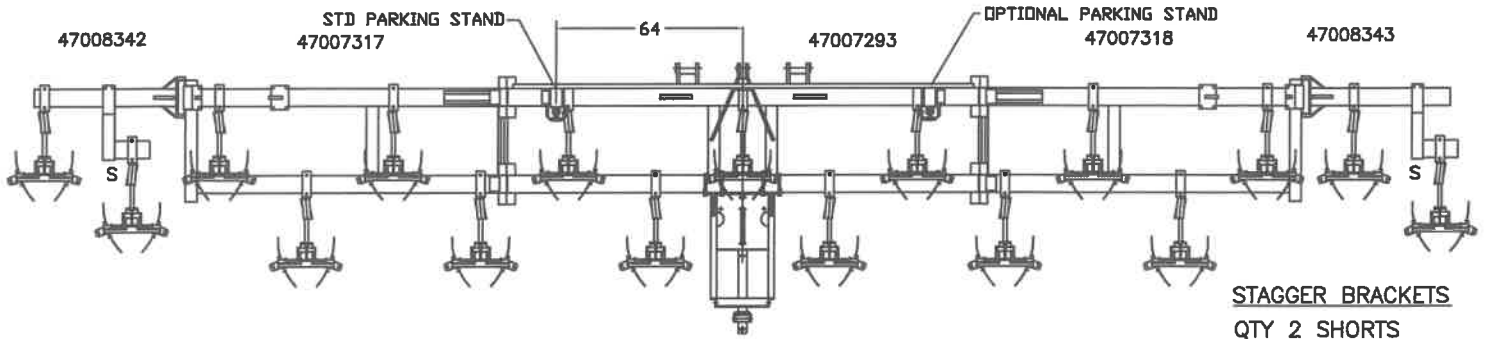
STAGGER BRACKETS
QTY 7 MEDIUMS

3000 TOOLBAR (STANDARD)

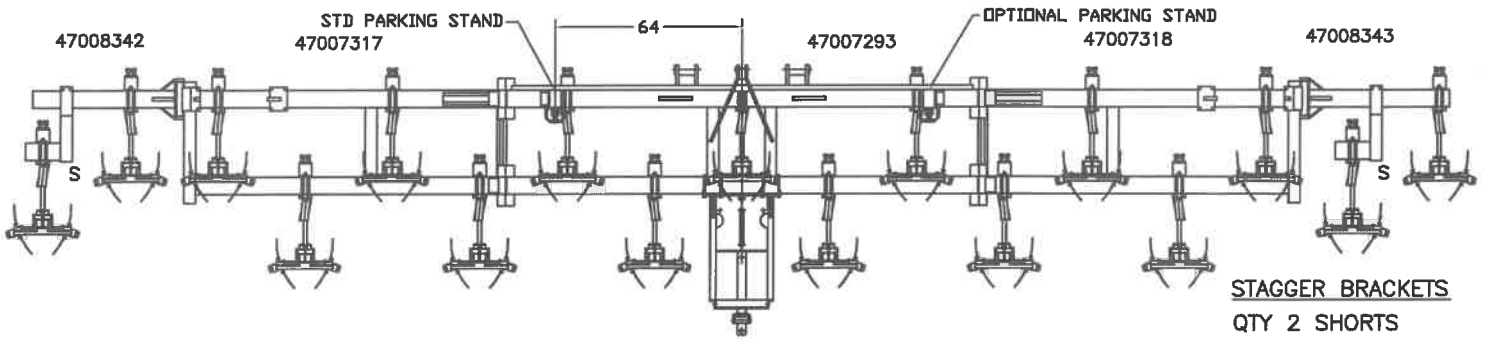
IN MANUAL

3K30STD
11/14/05
REV 04-16-12

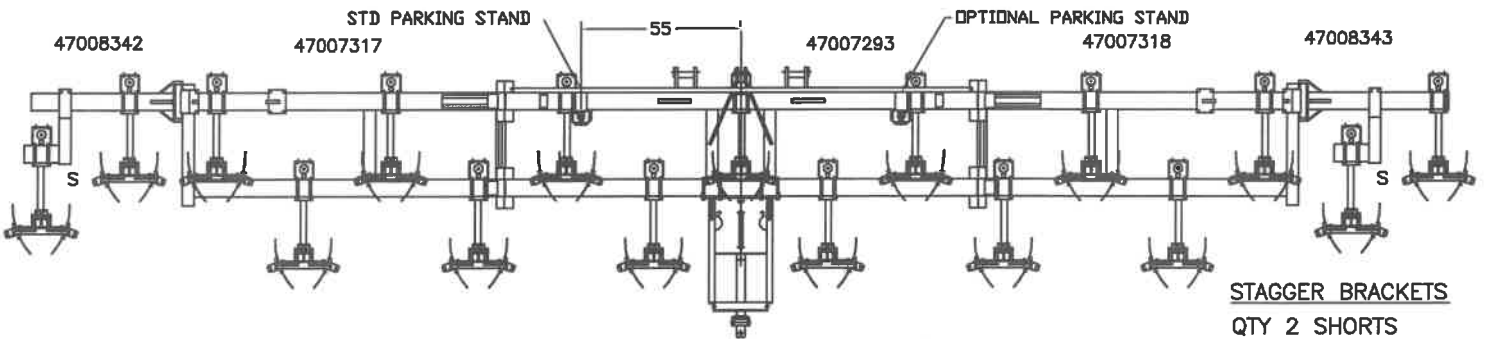
30 INCH SPACING, ODD NUMBER OF ROWS
18 INCH DISKS SHOWN



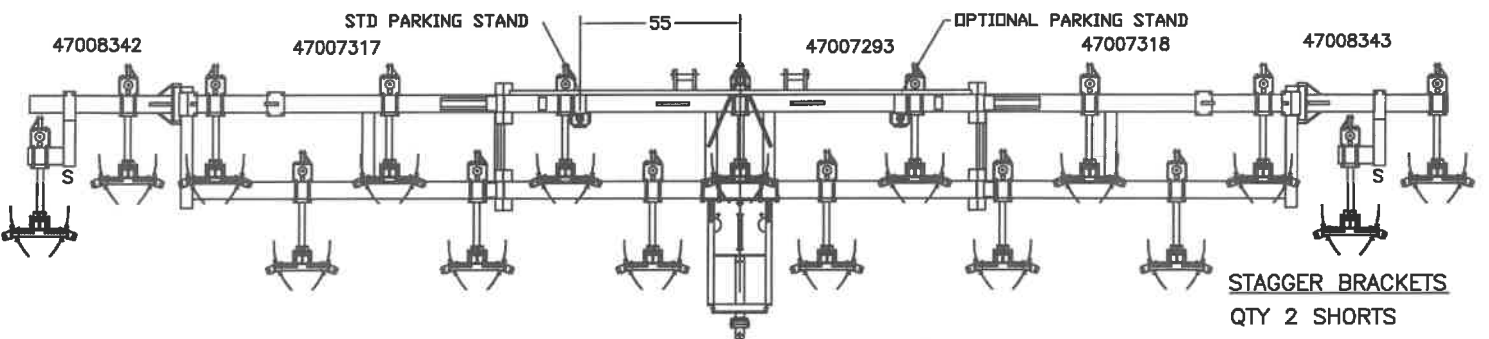
COIL SHANK LOCATIONS, WITHOUT COULTERS
ON A 42 FT. TOOLBAR



COIL SHANK LOCATIONS, WITH COULTERS
ON A 42 FT. TOOLBAR



SPRING SHANK LOCATIONS, WITHOUT COULTERS
ON A 42 FT. TOOLBAR

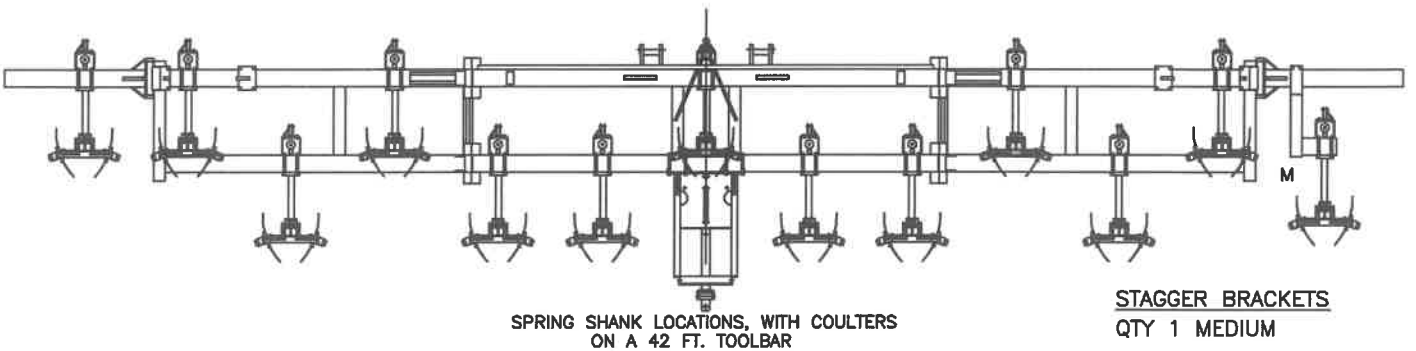
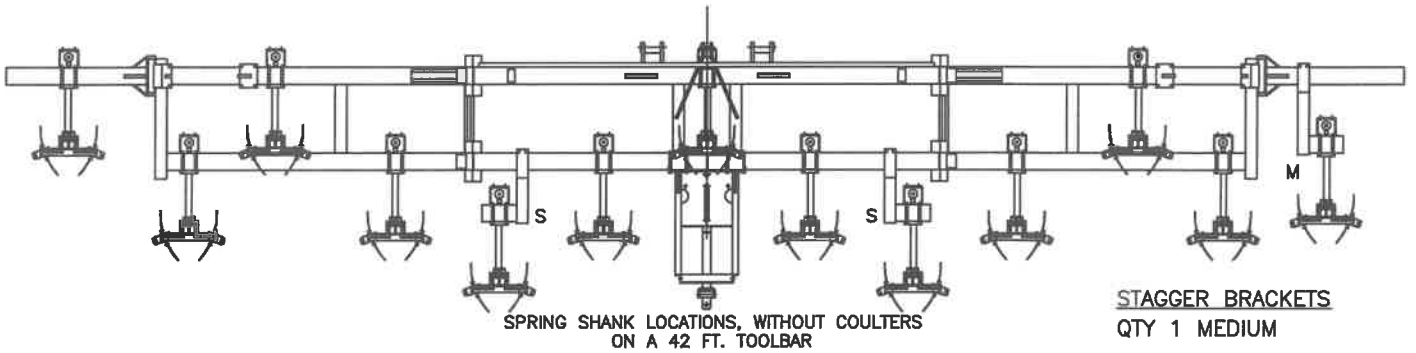
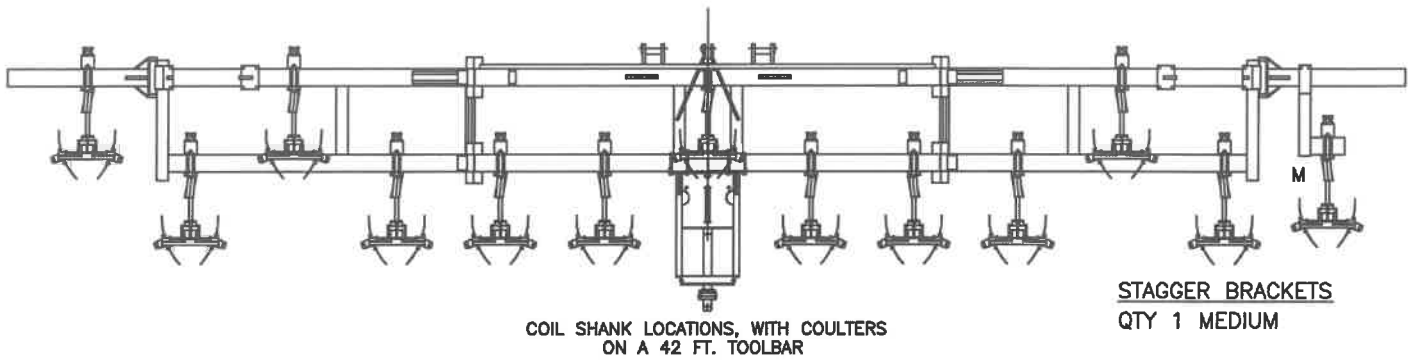
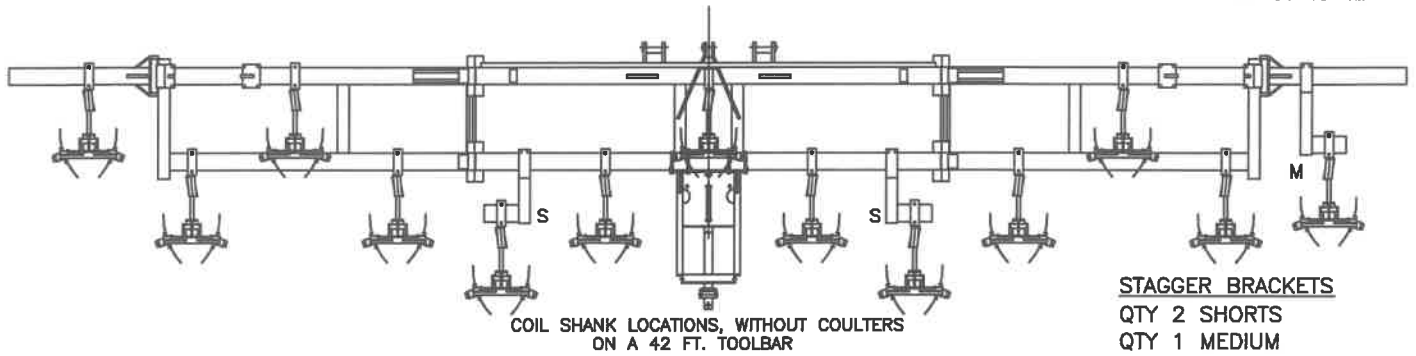


SPRING SHANK LOCATIONS, WITH COULTERS
ON A 42 FT. TOOLBAR

3000 TOOLBAR (STANDARD)
 36 INCH SPACING, ODD NUMBER OF ROWS
 18 INCH DISKS SHOWN

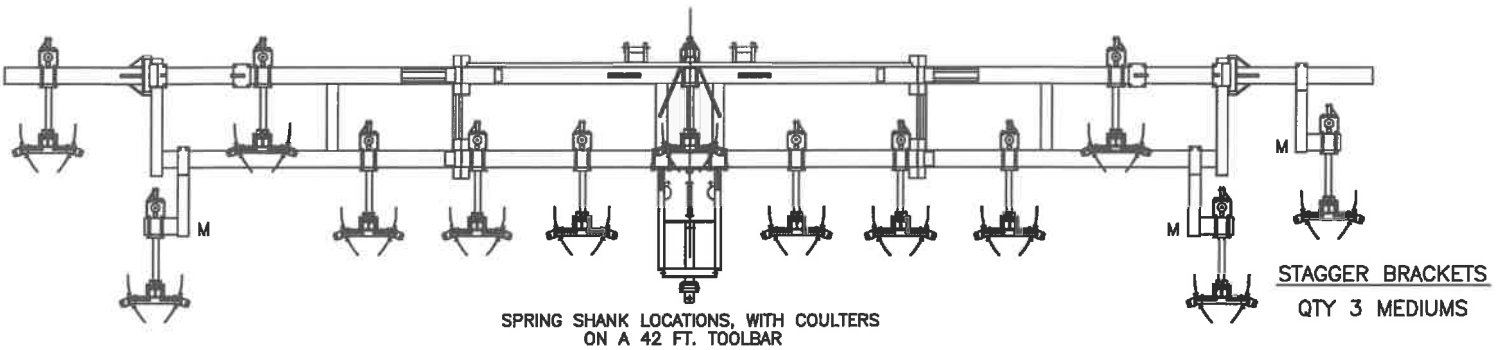
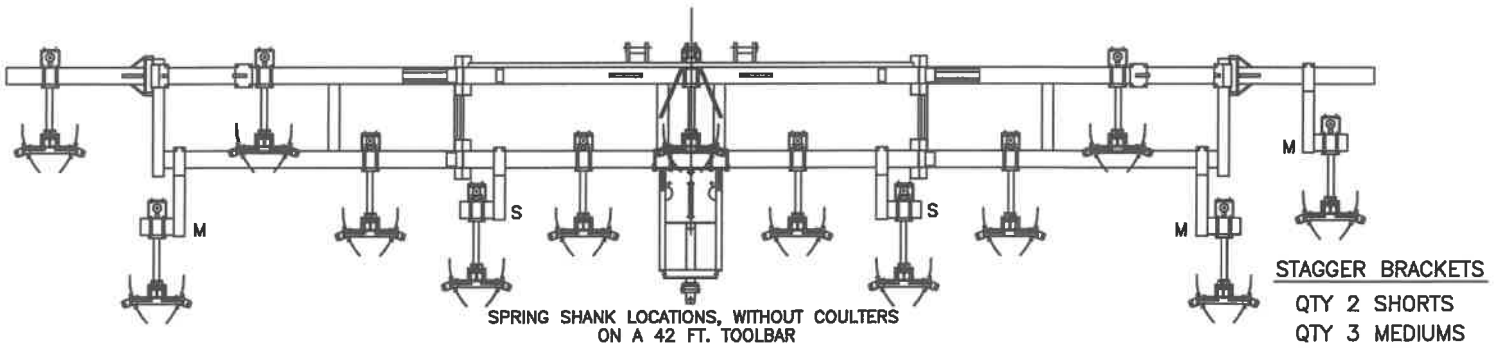
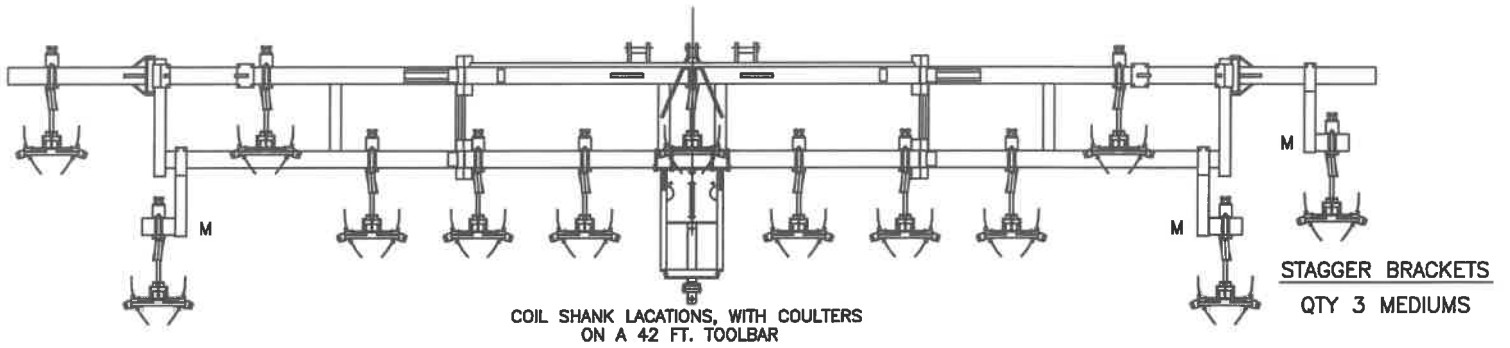
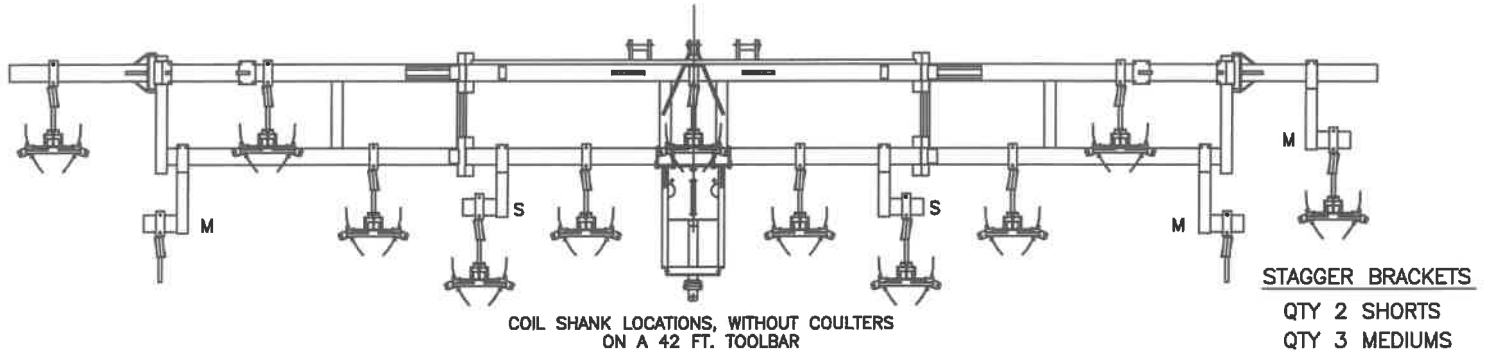
IN MANUAL

3K36STD
 REV 04-13-12



3000 TOOLBAR (STANDARD)
 38 INCH SPACING, ODD NUMBER OF ROWS
 18 INCH DISKS SHOWN

3K38STD
 rev 04-16-12
 IN MANUAL



3000 32 FT TOOLBAR

WITH AG33 3-POINT 4 WHEEL CONVERSION
15 ROWS @ 30 INCH SPACING
RIGID SHANK LOCATIONS, WITH COULTERS
TRAILING HYD GAUGE WHEELS
18 INCH FLOATING DISC COVERS

IN MANUAL

3K15X30RSFAAG33
REV 03-18-13

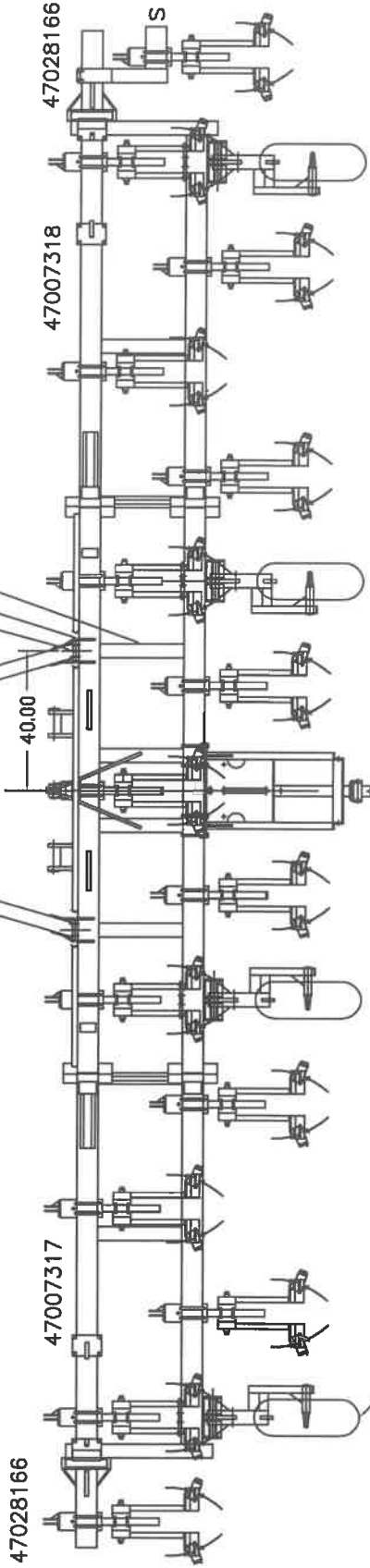
OPTIONAL
AG33 3 POINT CONV KIT

SPECIAL CENTER SECTION 47005800 INCLUDES
the following weld-on items for AG33 3-POINT CONV KIT

10021 (pole mtg plate 2 qty added for 3-point conv)

10350 gusset (8 qty added for 3-point conv)

7299 crosstube (2 qty added for 3-point conv)



OPTIONAL 4 QTY
TRAILING HYD
GA WHEELS

SINGLE DELUXE NURSE HITCH OPTION

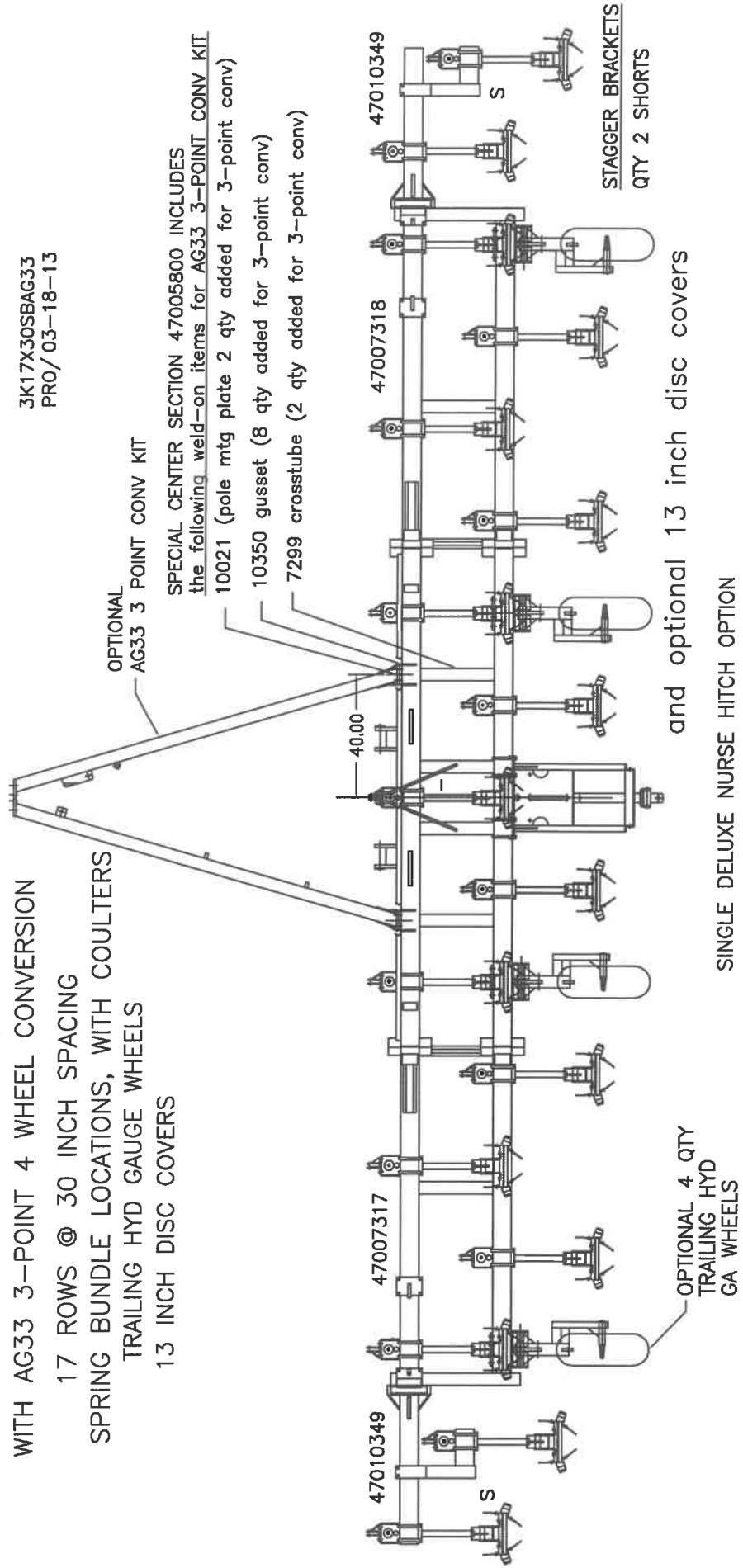
STAGGER BRACKETS
QTY 1 SHORT

3000 42 FT TOOLBAR

WITH AG33 3-POINT 4 WHEEL CONVERSION
 17 ROWS @ 30 INCH SPACING
 SPRING BUNDLE LOCATIONS, WITH COULTERS
 TRAILING HYD GAUGE WHEELS
 13 INCH DISC COVERS

IN MANUAL

3K17X30SBAG33
 PRO/03-18-13



and optional 13 inch disc covers

SINGLE DELUXE NURSE HITCH OPTION

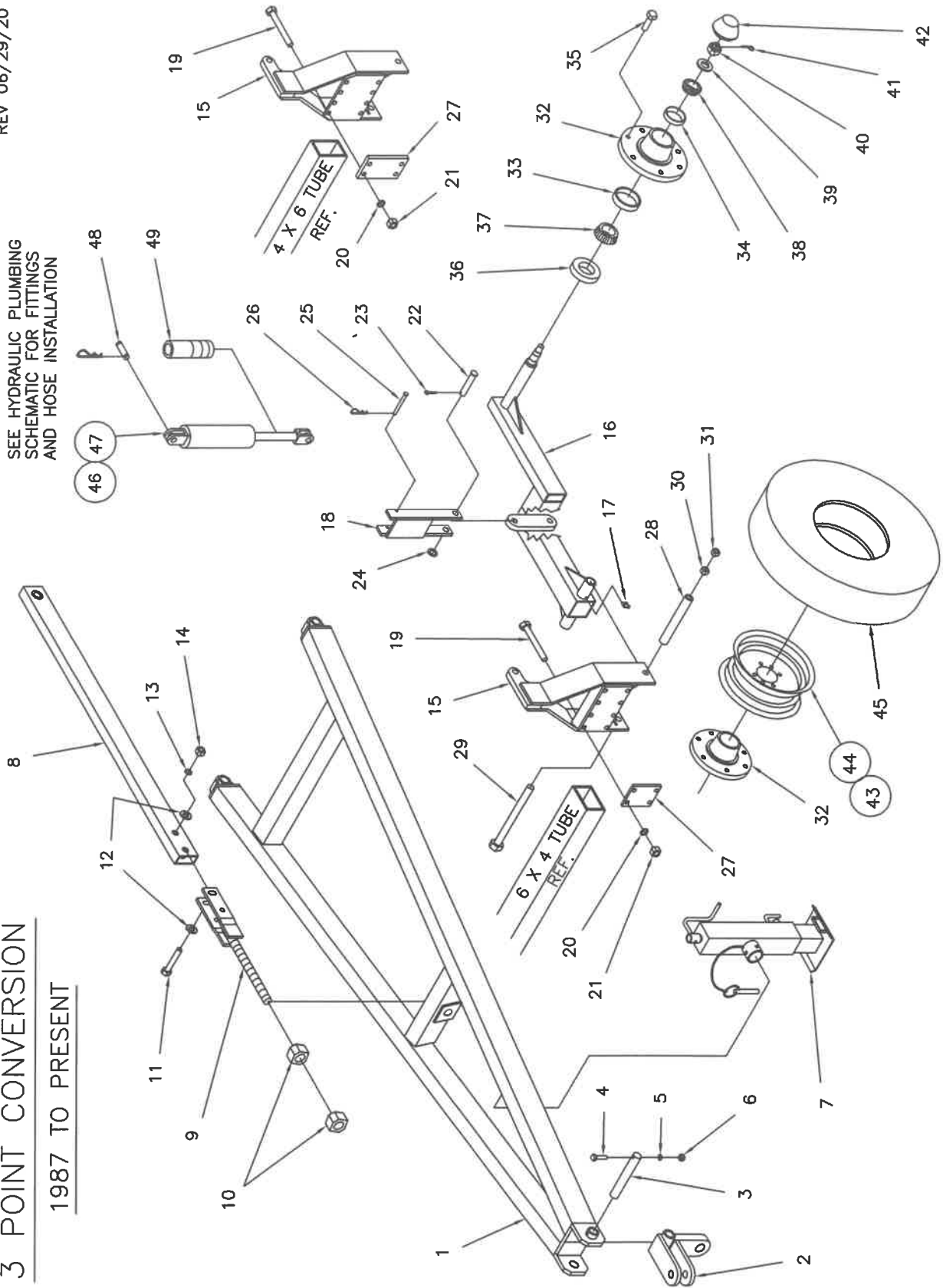
AG32

3 POINT CONVERSION

1987 TO PRESENT

AG32CONV
REV 06/29/20

SEE HYDRAULIC PLUMBING
SCHEMATIC FOR FITTINGS
AND HOSE INSTALLATION



AG32 3 PT. CONVERSION

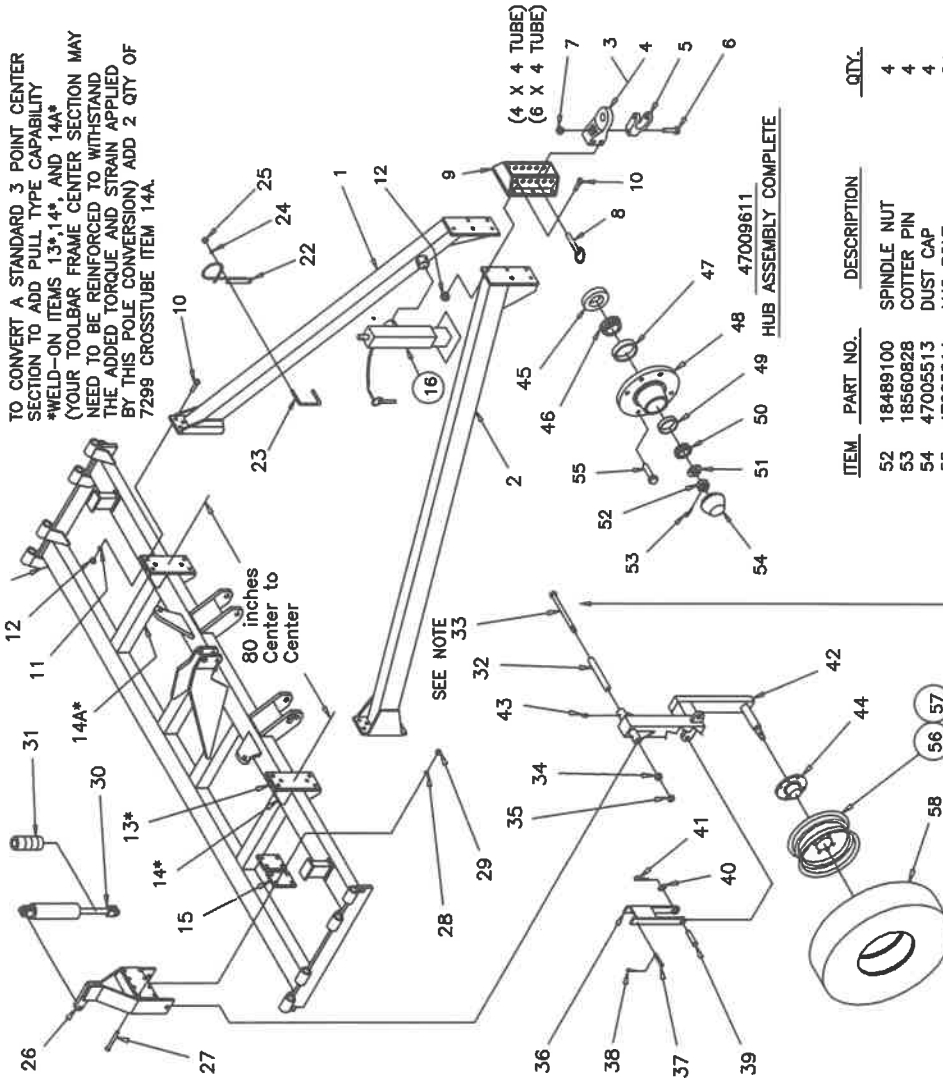
AG32CNVL
06/29/20

PARTS LIST 1987 TO PRESENT

ITEM	PART NO.	DESCRIPTION	QTY.	ITEM	PART NO.	DESCRIPTION	QTY.
	40320000	CONVERSION KIT COMPLETE		22	18549054	CLEVIS PIN, 1 X 5	2
		INCLUDES ITEMS 1 & 2 & 8		23	18560826	COTTER PIN, 3/16 X 1 1/2	2
REF.	47009153	POLE COMPLETE		24	18442200	FLATWASHER, 1" SAE	2
REF.	47009223	THIRD ARM ASSEMBLY COMPLETE		25	18541254	CLEVIS PIN, 3/8 X 5	2
REF.	47009047	HITCH CLEVIS.		26	47005001	HAIRPIN BRIDGE, # 7	2
1	47009153	POLE ASSEMBLY COMPLETE	1	27	47006586	MOUNTING PLATE FOR, 4 X 4 TUBE AND 6 X 4 TUBE	4
		INCLUDES ITEMS 1 & 3 TO 6		OR	47008268	MOUNTING PLATE FOR, 4 X 6 TUBE AND 6 X 6 TUBE	4
1	47009053	POLE ASSEMBLY	1	28	47001588	BUSHING, 1 1/2 O.D.	2
2	47009047	HITCH	1	29	47009587	BOLT, 1-8NC. X 14	2
3	47001590	PIVOT PIN, 1 1/2 DIA.	1	30	18409000	HEX. NUT, 1-8NC.	2
4	18036834	BOLT, 3/8-16NC. X 2 1/2	1	31	18449000	JAM NUT, 1-8NC.	2
5	18891200	LOCKWASHER, 3/8	1	32	47009611	HUB ASSEMBLY COMPLETE	2
6	18436800	HEX. NUT, 3/8-16NC.	1			INCLUDES ITEMS 32-42	
7	05510	JACK ASSEMBLY COMPLETE, FOR YEARS 1987 - 1989	1	32	47005511	HUB WITH CUPS, ITEM 33 & 34	2
		1990 TO PRESENT - AS FOLLOWS		33	47005710	BEARING CUP, INNER	2
	70924	JACK COMPLETE, (PAINTED BLACK)		34	47005010	BEARING CUP, OUTER	2
				35	47005014	WHEEL BOLT, 1/2-20NF	12
				36	47005013	GREASE SEAL	2
				37	47005749	BEARING CONE, INNER	2
				38	47005048	BEARING CONE, OUTER	2
				39	18000017	SPINDLE WASHER, 1 X 3/16	2
				40	18489100	SLOTTED NUT, 1-14NF.	2
				41	18560828	COTTER PIN, 3/16 X 1 1/4	2
				42	47005513	DUST CAP	2
8	47009223	THIRD ARM ASSEMBLY COMPLETE		43	47005589	RIM, 15 X 6 ON 6	2
		INCLUDES ITEMS 8 TO 14		44	201120012	VALVE STEM	2
8	47009221	THIRD ARM	1	45	10261	TIRE, 11L X 15, 8 PLY (36 PSI)	2
9	47009218	3rd ARM ADJUSTMENT	1	46	47005459	MASTER CYLINDER, 4 X 12	2
10	18401010	HEX. NUT, 1 1/2-6NC.	2	47	47005449	SLAVE CYLINDER, 3 3/4 X 12	1
11	18058444	BOLT, 3/4-10NC. X 4 1/2	2	48	47003514	CYLINDER PIN KIT (1 X 4)	1
12	18811800	FLATWASHER, 3/4	4	49	47005455	SET, DEPTH CONTROLS	2
13	18891800	LOCKWASHER, 3/4	2			HARDWARE PACKAGE (REF)	
14	18418400	HEX. NUT, 3/4-10NC.	2	47005004		INCLUDES ITEMS 18 & 27 - 31	
15	47009149	MOUNT BRACKET FOR 4 X 4 OR 6 X 4 TUBE	2	47005818		BOLT PACKAGE (REF)	
OR	47008266	MOUNT BRACKET FOR 4 X 6 OR 6 X 6 TUBE	2			INCLUDES ITEMS 19 TO 26	
16	47009049	WHEEL CARRIER COMPLETE	2			THE FOLLOWING ITEMS ARE NOT SHOWN	
		INCLUDES ITEMS 16 & 32 - 42				SEE "HYDRAULIC PLUMBING SCHEMATIC" FOR LOCATIONS	
16	47009042	WHEEL CARRIER	2			94226305 SWIVEL, 1/2 X 90	4
17	18901805	GREASE ZERK, STRAIGHT	4			40320011 PLUMBING PACKAGE (ITEMS NOT SHOWN)	1
18	47009672	CYLINDER STOP	2			6801-6-8 ADAPTER, #8 O-RING X #6 MJIC	4
19	18058460	BOLT, 3/4-10NC. X 6 1/2 FOR 4 X 4 AND 4 X 6 TUBE	16			63202 HOSE PACKAGE, INCLUDES-	1
OR	18058476	BOLT, 3/4-10NC X 8 1/2 FOR 6 X 4 AND 6 X 6 TUBE	16			609110 HYD. HOSE, 3/8 X 132"	1
20	18891800	LOCKWASHER, 3/4	16			609264 HYD. HOSE, #6 JICFS EACH END	2
21	18418400	HEX. NUT, 3/4-10NC	16			1/2 MPT X #6 JICFS	2

AG33 THREE-POINT TOOLBAR AG334WHL
 (WAS ILLUSTRATION)
 (# ISO46A4WHL)
 REV 06/29/20
 FROM FALL 1996 TO PRESENT

FOR HYDRAULIC CYLINDER INFO
 HOSES AND FITTINGS SEE
 SEPARATE HYDRAULIC PLUMBING
 ILLUSTRATION.



ITEM	PART NO.	DESCRIPTION	QTY.
1	47008360	POLE, LEFT HAND	1
2	47008361	POLE, RIGHT HAND	1
3	PI-301VHC	PERFECT HITCH ASSEMBLY INCLUDES ITEMS 4 TO 7	1
4	PPI-301VH	PERFECT HITCH, BASE HITCH	1
5	PPI-208VR	PERFECT HITCH CLEVIS	1
6	18058452	BOLT, 3/4-10NC. X 5 GR. 8	1
7	18458452	LOCKNUT, 3/4-10NC. GR. 8	1
8	600182	HITCH PIN, 1 X 6	1
9	47008355	HITCH MOUNT	1
10	18098435	3/4-10NC X 2 1/2 LB. BOLT GR8	22
11			
12	18458452	LOCKNUT, 3/4-10NC. GR8	22
12A	47005800	SPECIAL CENTER SECTION (INCLUDES ITEMS 13 THRU 14A)	1
13*	2-10021	MOUNTING PLATE - POLE	2
14*	2-10350	GUSSET, FOR MNTG. PLT.	8
14A*	2-7299	CROSSTUBE, FRAME REINF.	2
15	47006586	MOUNTING PLATE -BRACKET	4
16	70924	SWIVEL JACK, COMPLETE	1
17	-	-	-
18	-	-	-
19	-	-	-
20	-	-	-
21	-	-	-
22	47010165	HOSE BRACKET	1
23	47001028	U-BOLT, 3/8-16NC.	4
24	18891200	LOCKWASHER, 3/8	8
25	18436800	HEX. NUT, 3/8-16NC.	8
26	47009149	CYLINDER MOUNT BRACKET	4
27	18058460	BOLT, 3/4-10NC. X 6 1/2	32
28	18058476	BOLT, 3/4-10NC. X 8 1/2 OPT.	32
29	18418400	LOCKWASHER, 3/4	32
30	HEX. NUT, 3/4-10NC.		32
31	HYD. CYL., SEE PLUMBING ILLUSTRATION		2
32	47005455	SET, DEPTH CONTROLS	4
33	47001588	PIVOT BUSHING TUBE	4
34	47009587	BOLT, 1-8NC. X 14	4
35	18409000	HEX. NUT, 1-8NC.	4
36	18449000	JAM NUT, 1-8NC.	4
37	47009672	CYLINDER TRANSPORT LOCK	4
38	18541254	CLEVIS PIN, 3/8 X 5	4
39	18549054	HAIRPIN BRIDGE, NO. 7	4
40	18842200	CLEVIS PIN, 1 X 5	4
41	18560826	FLATWASHER, 1" SAE	4
42	47009049	COTTER PIN, 3/16 X 1 1/2	4
43	18560826	WHEEL CARRIER ASSEMBLY INCLUDES ITEMS 42-55	4
44	47009049	WHEEL CARRIER	4
45	18560826	GREASE ZERK	8
46	47009611	HUB COMPLETE	4
47	47005013	INCLUDES ITEMS 45-55	4
48	47005749	GREASE SEAL	4
49	47005710	INNER BEARING CONE	4
50	47005710	INNER BEARING RACE	4
51	47005511	HUB WITH RACES	4
52	47005010	OUTER BEARING RACE	4
53	47005048	OUTER BEARING CONE	4
54	18000017	SPINDLE WASHER	4

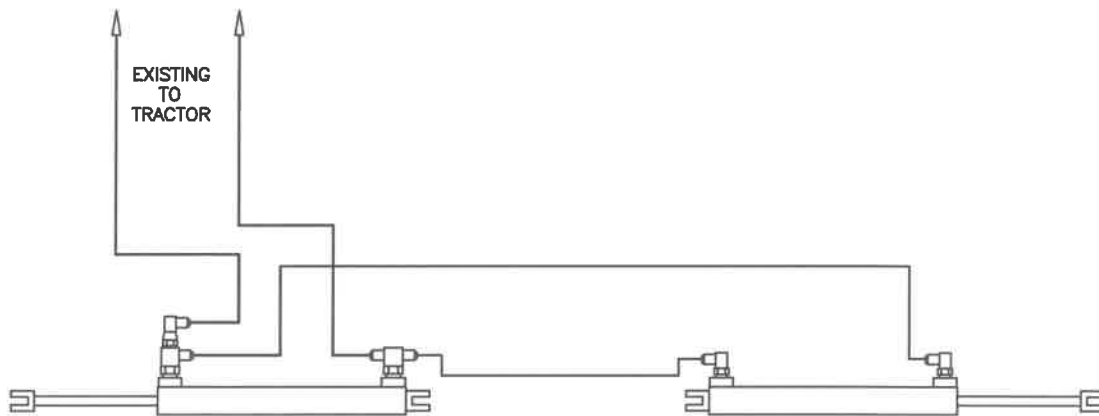
ITEM	PART NO.	DESCRIPTION	QTY.
52	18489100	SPINDLE NUT	4
53	18560828	COTTER PIN	4
54	47005513	DUST CAP	4
55	47005014	LUG BOLT	24
56	47005589	WHEEL RIM 15 X 8	4
57	20120012	VALVE STEM	4
58	20121114	TIRE, 11L 15 X 6 PLY (INFLATE TO 28 PSI)	4
47005818		BOLT PACKAGE INCLUDES ITEMS 27-29 & 31 & 37-41	
47005004		HARDWARE PACKAGE INCLUDES ITEMS 15 & 32-36	
47335004		HARDWARE PACKAGE INCLUDES ITEMS 3 TO 14	

NOTE:
 AT ASSEMBLY SECURELY TIGHTEN BOLT ITEM 33
 SO THAT THE BUSHING ITEM 32 WILL NOT
 ROTATE WHEN ASSEMBLED WITH THE CYLINDER MOUNT
 ITEM 42. INSPECT THIS ASSEMBLY PERIODICALLY TO
 MAKE SURE THE BUSHING REMAINS SECURE.

AG33 3-POINT TOOLBAR CONVERSION HYDRAULIC PLUMBING SCHEMATIC

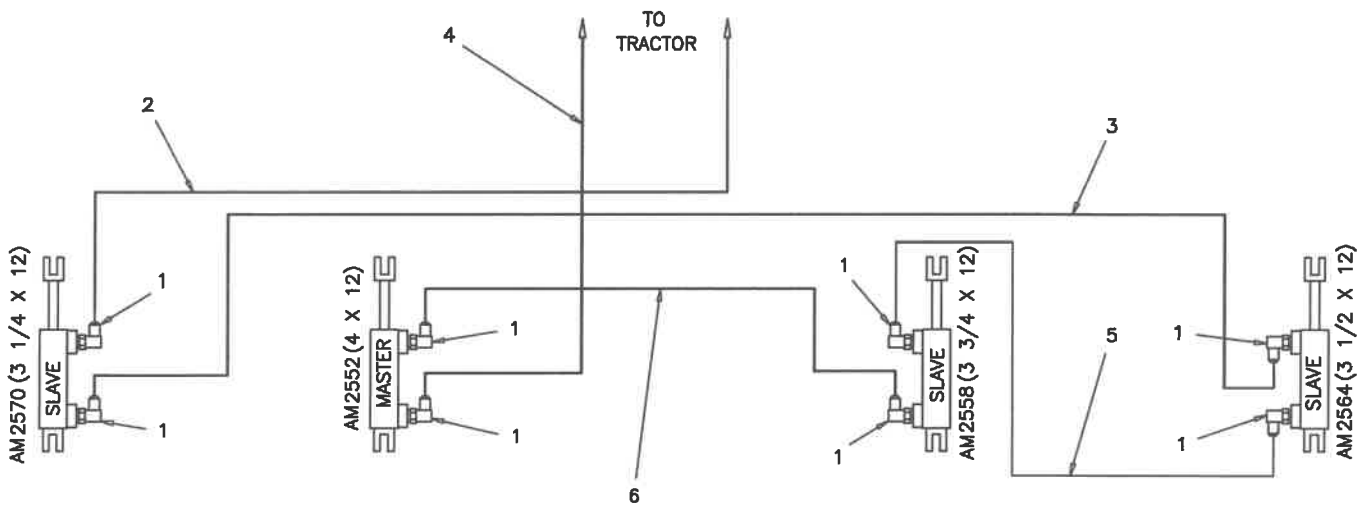
AG33CONV4WHYD
PRO/03-18-07
REV/04/25/08

3000 SERIES TOOLBAR WITH 4 HYDRAULIC LIFT AXLES



TYPICAL HYD. PLUMBING FOR WINGS

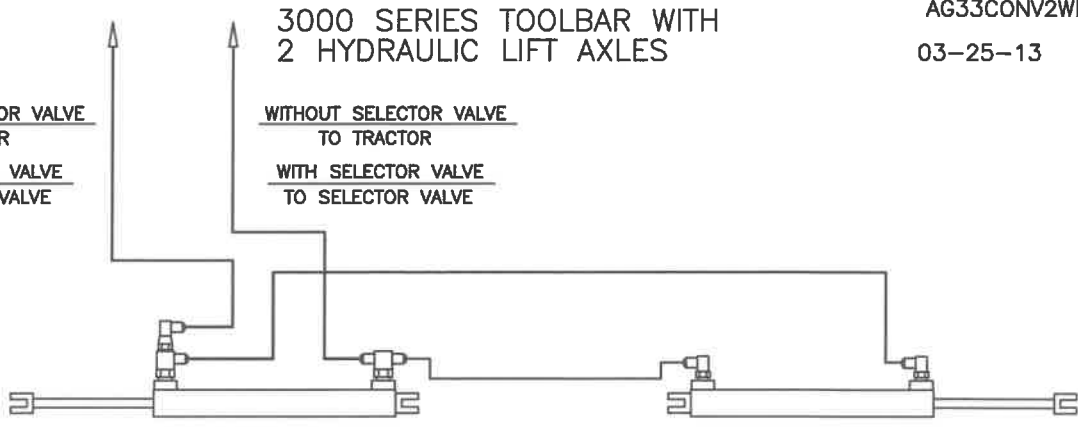
ONLY (EXTENSION HOSES TO TRACTOR PROVIDED)



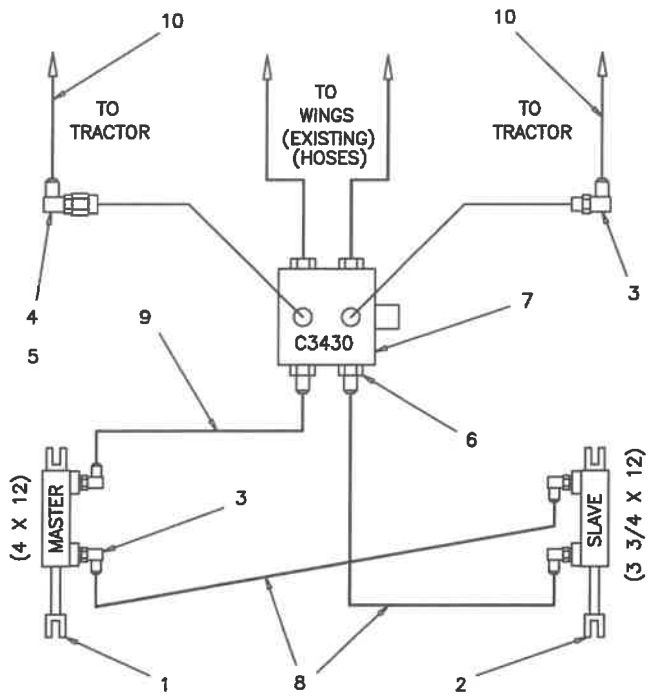
ITEM	PART NO.	DESCRIPTION	QTY
1	6801-6-B	ADAPTER ELBOW #6 MJIC X #8 M O-RING	8
2	633002 609420	HYDRAULIC HOSE PKG. INCLUDES ITEMS 2 TO 7 HOSE, 3/8 X 420" - 1/2 MPT X #6 JICFS	1
3	609330	HOSE, 3/8 X 396" - #6 JICFS BOTH ENDS	1
4	609286	HOSE, 3/8 X 286" - 1/2 MPT X #6 JICFS	1
5	601310	HOSE, 3/8 X 166" - #6 JICFS BOTH ENDS	1
6	609120	HOSE, 3/8 X 144" - #6 JICFS BOTH ENDS	1
7	609132	EXTENSION HOSES FOR EXISTING WING HOSES TO TRACTOR HOSE, 3/8 X 132" - # 6 JICM X # 6 JICFS	2

AG32 & AG33 3-POINT TOOLBAR CONVERSION HYDRAULIC PLUMBING SCHEMATIC

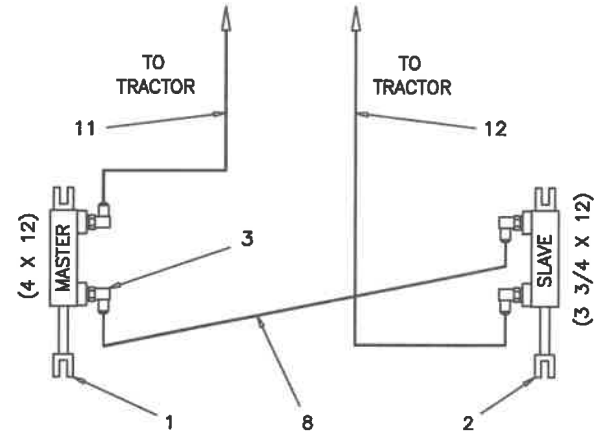
AG33CONV2WHYD
03-25-13



TYPICAL HYD. PLUMBING FOR WINGS ONLY (EXTENSION HOSES TO TRACTOR PROVIDED)



HYDRAULIC PLUMBING
FOR (2) HYD. LIFT WHEELS
(WITH SELECTOR VALVE)

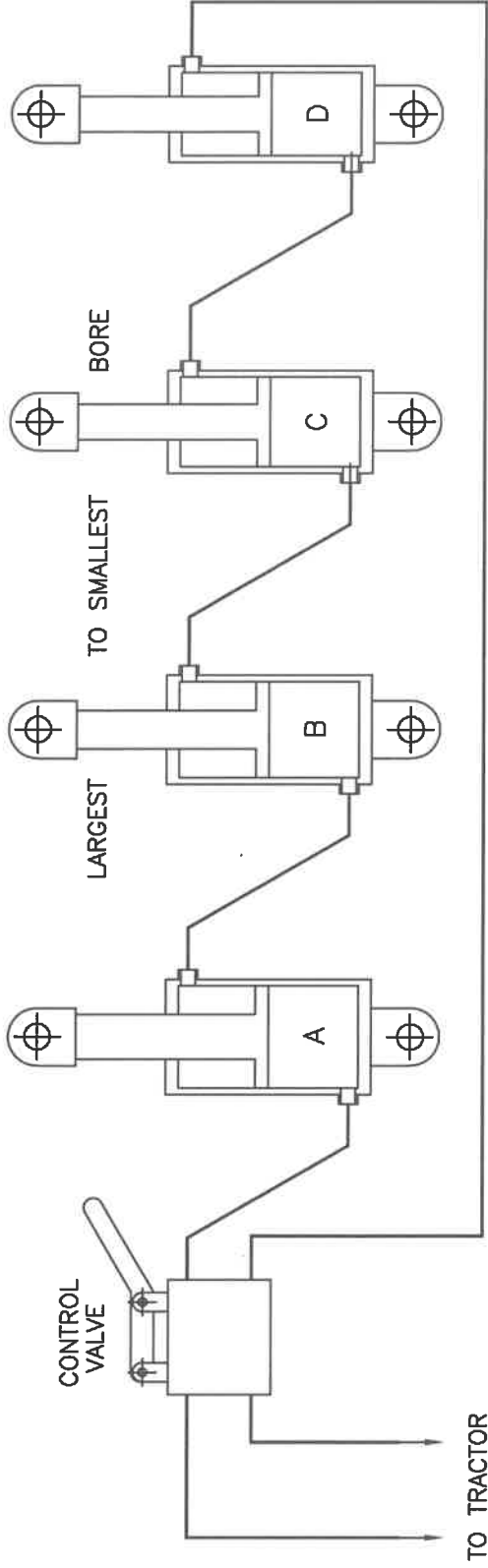


HYDRAULIC PLUMBING
FOR (2) HYD. LIFT WHEELS
(WITHOUT SELECTOR VALVE)

ITEM	PART NO.	DESCRIPTION	QTY
1	47005459	HYDRAULIC CYLINDER (4 X 12)	1
2	47005449	HYDRAULIC CYLINDER (3 3/4 X 12)	1
	632001	HYD. FTG PKG. INCLUDES ITEMS 3 - 6	
3	6801-6-8	ADAPTER ELBOW #6 MJIC X #8 M O-RING	5
4	6410-8-6	REDUCER #8 M O-RING X #6 FJIC	1
5	6801-6	ELBOW #6 MJIC X #6 O-RING	1
6	6400-6-8	ADPTER #6 MJIC X #8 M O-RING	2
7	100902	SELECTOR VALVE ASSEMBLY	1
	633000	HYD. HOSE PKG. INCLUDES ITEMS 8, 9, 10, & 13	
8	609120	HOSE, 3/8 X 144" #6 JICFS BOTH ENDS	2
9	609090	HOSE, 3/8 X 90" #6 JICFS BOTH ENDS	1
10	609176	HOSE, 3/8 X 176" 1/2 MPT X #6 JICFS	2
		EXTENSION HOSES FOR EXISTING WING HOSES TO TRACTOR	
13	609132	HOSE, 3/8 X 132" #6 JICM X #6 JICFS	2

ITEM	PART NO.	DESCRIPTION	QTY
1	47005459	HYDRAULIC CYLINDER (4 X 12)	1
2	47005449	HYDRAULIC CYLINDER (3 3/4 X 12)	1
3	6801-6-8	ADAPTER ELBOW #6 MJIC X #8 M O-RING	4
4			
5			
6			
7			
	633001	HYD. HOSE PKG. INCLUDES ITEMS 8, 11, 12, & 13	
8	609120	HOSE, 3/8 X 144" #6 JICFS BOTH ENDS	1
11	609286	HOSE, 3/8 X 286" 1/2 MPT X #6 JICFS	1
12	609356	HOSE, 3/8 X 356" 1/2 MPT X #6 JICFS	1
		EXTENSION HOSES FOR EXISTING WING HOSES TO TRACTOR	
13	609132	HOSE, 3/8 X 132" #6 JICM X #6 JICFS	2

TYPICAL HYDRAULIC CYLINDER INSTALLATION



CAUTION: All series systems must be bled of air for proper operation.

PROCEDURE:

1. Ensure that the phasing cylinders are plumbed in the manner shown above.
2. Unhook the load from the rod end of the cylinder and secure the cylinder in a vertical position with the rod pointing up.
3. Extend the cylinders slowly until full stroke is obtained in all cylinders. Pause at full stroke and allow oil to flow thru the system. Allow 1 minute pause for each cylinder in the system.
4. Retract the cylinders and repeat step 3.
5. Retract and extend the cylinders. Observe if the cylinders extend in unison. If not, repeat the cycle of extend - pause - retract, until the cylinder shafts move in unison.
6. When the shafts move in unison, the system is properly bled and the cylinders may be fitted back to the machinery. Do not allow air back into the system when re-fitting the cylinders.
7. Once the cylinders are re-fitted back on the implement, check that they are still working in phase. If not, repeat the procedure starting with step one.

AG32 THREE POINT CONVERSIONS

AG32CYL
10-17-08

SEAL KIT PART NO'S. AND APPLICATIONS

"PRINCE" SPRING 1981 – SPRING 1984

Poppet valve built into pistons to make cylinders phase.
With depth control plate on master cylinder.

	USED ON CYL. SIZE	AG-SYSTEM PART NO.	MANUFACTURER PART NO.
Seal Kit for Master Cylinder	4 x 12	47005441	PMCK-S-1438
Seal Kit for Slave Cylinder	3 3/4 x 12	47005440	PMCK-S-1452
Valve Assembly for master cylinder depth control		47005439	18090102

"PRINCE" FALL 1984 – SPRING 1986

Plug welded on cylinder barrel to make cylinders phase.
With depth control plate on master cylinder.

Seal Kit for Master Cylinder	4 x 12	47005456	PMCK-AB-1216
Seal Kit for Slave Cylinder	3 3/4 x 12	47005457	PMCK-AB-1258
Valve Assembly for master cylinder depth control		47005439	18090102

"RED LION" FALL 1986 – SPRING 1989

Three grooves on inside cylinder wall to make cylinders phase.

Seal Kit for Master Cylinder	4 x 12	47005444	492931
Seal Kit for Slave Cylinder	3 3/4 x 12	47005445	492928

**"RED LION" FALL 1989– Replacement for cylinders sold in
Fall of 1988 and Spring of 1989**

Plug welded on cylinder barrel to make cylinders phase.

Seal Kit for Master Cylinder	4 x 12	47005442	493035
Seal Kit for Slave Cylinder	3 3/4 x 12	47005443	493034

"RED LION" Replacement cylinders for above period

Master Cylinder (637536)	4 x 12	47005453	40PTR12-137
Slave Cylinder (637535)	3 3/4 x 12	47005454	37PTR12-137

(22 1/4" pin centers retracted)

"PRINCE" FALL 1989-1991

Slug welded on cylinder barrel with allen head plug installed
to make cylinders phase. (You can see the seal on rod end of cylinder)
The rod mounting hole is "straight thru" the piston and the piston is
flush with the shoulder on the rod.

Seal Kit for Master Cylinder	4 x 12	47005447	PMCK-AF-1052
Seal Kit for Slave Cylinder	3 3/4 x 12	47005448	PMCK-AF-1058

"PRINCE" 1992 – PRESENT (serial No. and part No. located on tube)

Slug welded on cylinder barrel with allen head plug installed
to make cylinders phase. (You can see the seal on rod end of cylinder)
The rod mounting hole in the piston is counterbored to accept the
shoulder on the rod. (24 1/4" pin centers retracted)

Seal Kit for Master Cylinder	4 x 12	47002552	PMCK-AM-2552
Seal Kit for Slave Cylinder	3 3/4 x 12	47032558	PMCK-AM-2558

"PRINCE" Replacement cylinders for above period

Master Cylinder	4 x 12	47005459	PMS-AM-2552
Slave Cylinder	3 3/4 x 12	47005449	PMS-AM-2558

Hydraulic Cylinder & Seal Kit Information

Prince Double-Acting Cylinders Rated at 2500 PSI. Max. (Non Rephasing)

Cyl. P.N.	Description	Seal Kit No.	
		Ag Systems	Cross-Ref. No.
47005052	3x24 (SAE-9224)	47009200	PMCK-9200
47005049	3 1/2x24 (SAE-9324A)	4709300A	PMCK-9300A
47005413	4x12 (AP-913)	470AP913	PMCK-AP-913
47005053	4x24 (SAE-9424)	47009400	PMCK-9400
47009436	4x36 (SAE-9436)	47009400	PMCK-9400
41300090	5x8 (SAE-9508) (Optional on Escort)	47039500	PMCK-9500

Prince Series Cylinders (Rephasing) Rated at 3000 PSI When Mounted in Series

47005090	3x12 (AM-2576)	47002576	PMCK-AM-2576
47005054	3 1/4x12 (AM-2570)	47002570	PMCK-AM-2570
47005056	3 1/2x12 (AM-2564)	47002564	PMCK-AM-2564
47005449	3 3/4x12 (AM-2558)	47032558	PMCK-AM-2558
47005459	4x12 (AM-2552)	47002552	PMCK-AM-2552
47005091	4 1/2x12 (AM-2546)	47002546	PMCK-AM-2546
47005051	4 3/4x12 (AM-2540)	47002540	PMCK-AM-2540
47005050	5x12 (AM-2534)	47002534	PMCK-AM-2534

Prince Double-Acting Cylinders Rated at 3000 PSI Continuous Working Pressure

47300091	3 1/2x8 (SAE 33508)	47033500	PMCK-SAE-33500
47300092	4x8 (SAE 34008)	47034000	PMCK-SAE-34000
47005491	3x14 (SAE 33014)	47033000	PMCK-SAE-33000
47300093	3x24 (SAE 33014)	47033000	PMCK-SAE-33000
47300094	3 1/2x24 (SAE 33524)	47033500	PMCK-SAE-33500
47005039	3 1/2x30 (SAE 33530)	47033500	PMCK-SAE-33500
47005057	4x30 (SAE 34030)	47034000	PMCK-SAE-34000
47300095	4x36 (SAE 34036)	47034000	PMCK-SAE-34000

Specialty Cylinders

47005437	1 1/2x4 (AK-284) (Ground Wheel Drive)	470AK284	PMCK-AK-284
47300090	5x8 Prince Gladiator (PMC-23008) (Escort Special H.D.)	47023000	PMCK-23000

Depth Control Sets

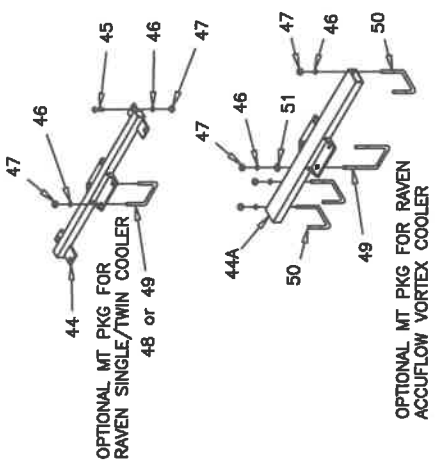
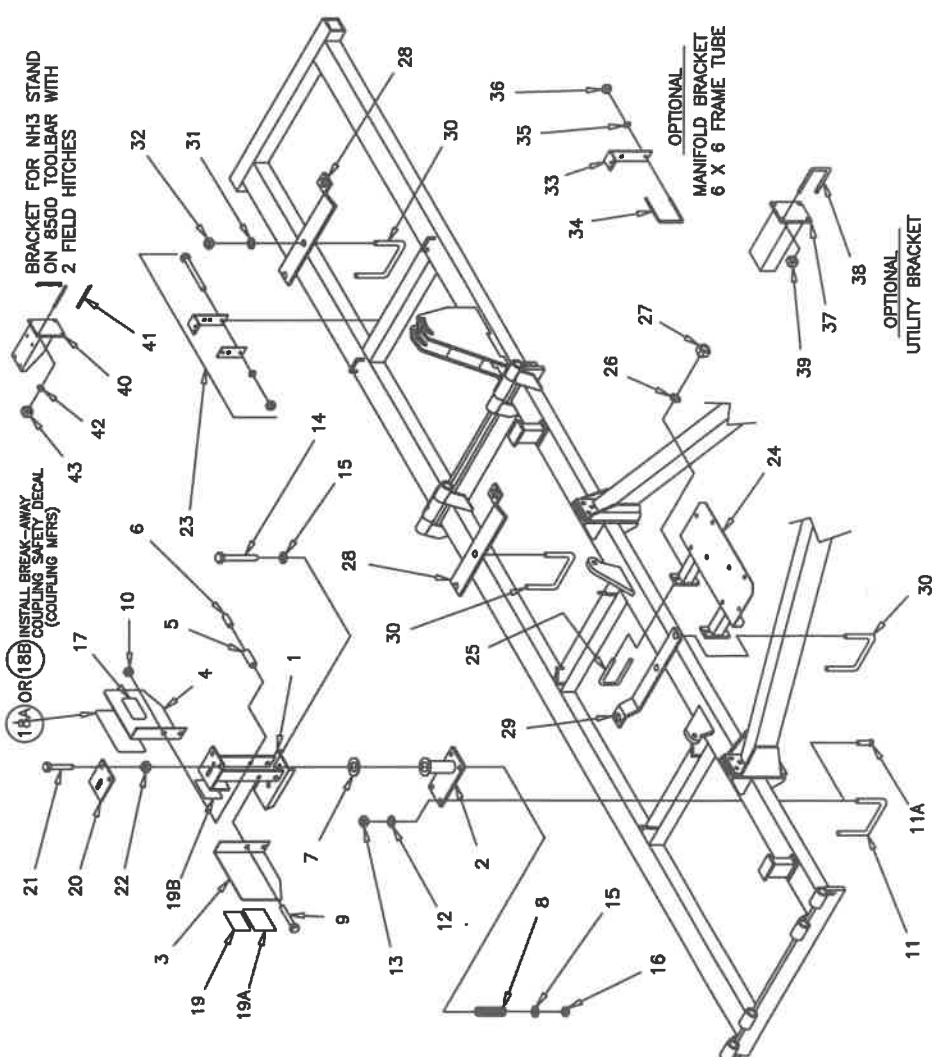
47005455	Model 98 for 1 3/8 & 1 1/2 Shaft Dia. Set Segments - 3/4, 1, 1 1/4, & 1 1/2
47006455	Model 97S for 1 3/4, Shaft Dia. Set Segments - 3/4, 1, 1 1/4, & 1 1/2
47005355	Model 96 for 2" Shaft Dia. Set Segments - 1, 1 1/2, 2 & 4 1/4

NH3 APPLICATION OPTIONS
PARTS LIST

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	47010175	CENTER MANIFOLD STAND ASSEMBLY COMPLETE	1
2	47010124	UPPER STAND	1
3	47010172	LOWER STAND	1
4	47010129	DECAL WING - LEFT	1
5	47010130	DECAL WING - RIGHT	1
6	47010128	BUSHING	2
7	47010242	SPACER TUBE	2
8	47010174	SPRINGER, 4.50 LONG	1
9	18056468	BOLT, 5/16-18NC, X 3 1/2	2
10	18496400	FLANGE NUT, 5/16-18NC	2
11	47001028	U-BOLT, 3/8-16NC, (6 X 4 TUBE)	2
11A	47009986	U-BOLT, 3/8-16NC, (6 X 6 TUBE)	2
12	18591200	LOCKWASHER, 3/8	4
13	18436800	HEX NUT, 3/8-16NC	4
14	18057425	BOLT, 1/2-13NC, X 5 1/4	1
15	18811400	WASHER, FLAT, USS 1/2 ZC	1
16	18457650	HEX. NUT, CTR LOCK 1/2-13 ZC	2
17	97445303	DECAL - AG SYSTEMS (SMALL)	1
18A	FM125-2000	DECAL - DANGER (FLOWMAX)	1
18B	90700034	DECAL - DANGER (PIONEER)	1
19	699103	DECAL - OPERATION & MAINT. INSTRUCTIONS	1
19A	699102	DECAL - DANGER	1
19B	699105	DECAL - SAFETY INSTRUCTIONS	1
20	47010155	CLAMP PLATE	1
21	18056458	BOLT, 5/16-16NC, X 3	3
22	18496400	FLANGE NUT, 5/16-16NC	3
23	70245	MANIFOLD STAND ASSEMBLY	1
24	47010236	NH3 CONTROL BRACKET	1
25	47006951	LOCKWASHER, 5/8	2
26	18891600	HEX. NUT, 5/8-11NC	4
27	18417900	OPTIONAL	4
28	47010381	MANIFOLD SUPPORT (3" OFFSET)	4
29	47010382	MANIFOLD SUPPORT (2" OFFSET)	1
30	47001028	U-BOLT, 3/8-13NC	5
31	18891200	LOCKWASHER, 3/8	10
32	18436800	HEX. NUT, 3/8-16NC	10
33	47019993	OPTIONAL	10
34	47019993	MANIFOLD SUPPORT (6 X 6 TUBE)	2
35	47009986	U-BOLT, 3/8-13NC, (6 X 6 TUBE)	2
36	18891200	LOCKWASHER, 3/8	4
37	18436800	HEX. NUT, 3/8-16NC	4
38	47004592	UTILITY BRACKET (6 X 6 TUBE)	1
39	47004621	UTILITY BRACKET (UNIV) (6 X 4 TUBE)	1
40	47006950	U-BOLT, 5/8-11NC, (6 X 6 TUBE)	2
41	44001516	U-BOLT, 5/8-11NC, (4 X 4 TUBE)	OR
42	47006951	U-BOLT, 5/8-11NC, (6 X 4 TUBE)	OR
43	18457900	HEX. LOCKNUT, 5/8-11NC	4
44	47004625	STAND MOUNT BRACKET	1
45	47009986	U-BOLT, 3/8-16NC	2
46	18891200	LOCKWASHER, 3/8	4
47	18436800	HEX NUT, 3/8-16NC	4

NH3 DISTRIBUTION
STANDS AND BRACKETS

44	47025077	OPTIONAL MT PKG FOR RAVEN COOLER (8000)	2
45	18037926	BOLT, HEX HD 5/8 X 1 1/2 GR5 ZC	8
46	18891600	LOCKWASHER, 5/8 ZC	16
47	18417900	NUT, 5/8 NC ZC	16
48	47010154	U-BOLT 5/8 (fits 4 x 6 tube)	4
44	47015077	OPTIONAL MT PKG FOR RAVEN COOLER (8500)	2
45	18037926	BOLT, HEX HD 5/8 X 1 1/2 GR5 ZC	8
46	18891600	LOCKWASHER, 5/8 ZC	16
47	18417900	NUT, 5/8 NC ZC	16
49	47006950	U-BOLT 5/8 (fits 6 x 6 tube)	4
44A	47995838	OPT. MT PKG FOR RAVEN Vortex COOLER (8500)	1
46	18891600	LOCKWASHER, 5/8 ZC	10
47	18417900	NUT, 5/8-11 NC ZC	10
49	47006950	U-BOLT 5/8 (fits 6 x 6 tube)	2
50	47015839	U-BOLT 5/8 (fits 2 x 4 tube)	3
51	18811600	FLATWASHER, 5/8 ZC	4



NH3 DISTRIBUTION STAND AND BREAK-AWAY COUPLING DEVICE INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS

NH3STNDKIT2
REV 08-29-12

BREAK-AWAY COUPLING DEVICE & NH3 STAND

THE PURPOSE OF THE BREAK-AWAY COUPLING DEVICE IS THAT IN THE EVENT OF A TRAILING NURSE TANK BECOMING INADVERTENTLY UNHITCHED AND DISCONNECTED FROM THE TOOLBAR, THE BREAK-AWAY COUPLING IS INSTALLED TO PROVIDE AN AUTOMATIC VALVE CLOSURE TO REDUCE THE AMOUNT OF NH3 THAT IS RELEASED INTO THE AIR AND REDUCE THE HAZARD TO THE TOOLBAR OPERATOR AND OTHERS.

THE NH3 STAND MOUNTS THE BREAK-AWAY COUPLING DEVICE TO THE TOOLBAR SECURELY BUT ALLOWS THE COUPLING DEVICE TO SWIVEL FREELY AND ALLOWS IT TO SAFELY DISCONNECT DURING AN INCIDENT WITHOUT CAUSING DAMAGE TO THE BREAK-AWAY COUPLING DEVICE. THE HOSE OR FITTINGS ATTACHED TO THE COUPLER AT THE SWIVEL BRACKET MUST NOT CATCH ON ANYTHING THAT WOULD PREVENT THE REQUIRED MOVEMENT DURING A PULL-AWAY EVENT.

NH3 STAND/ BREAK AWAY COUPLER INSTALLATION PROCEDURE

1. BOLT THE PRE-ASSEMBLED NH3 STAND ASSEMBLY TO THE REAR OF THE TOOLBAR CENTERED OVER THE FIELD HITCH USING U-BOLTS OR SUPPLIED BRACKETS. SEE YOUR SPECIFIC TOOLBAR MODEL OWNERS MANUAL AND NH3 STAND ILLUSTRATION FOR PARTS REQUIRED. (REF DETAIL A) MAKE SURE THE NH3 STAND DECALS CAN BE EASILY READ FACING THE REAR OF THE TOOLBAR. IMPORTANT! INSTALL THE BREAK-AWAY COUPLING MANUFACTURERS WARNING DECAL ON THE TOOLBAR CENTERED OVER THE FIELD HITCH WHERE IT CAN BE EASILY READ.

2. MOUNT THE BREAK-AWAY COUPLER PER THE INSTRUCTIONS INCLUDED BY THE SPECIFIC COUPLERS MANUFACTURER. THE MOUNTED COUPLER MUST BE ABLE TO FREELY SWIVEL APPROXIMATELY 80 DEGREES TO EACH SIDE AND ABOUT 30 DEGREES UP AND DOWN. (REFERENCE DETAILS B AND C) BE SURE TO READ AND FOLLOW ALL MANUFACTURERS SAFETY PRECAUTIONS. THIS MUST BE DONE SO THE COUPLER WILL BE PRESENTED WITH A STRAIGHT PULL BY THE HOSE IN THE EVENT OF A SITUATION WHERE THE NURSE TANK COMES FREE OF ITS ATTACHMENT TO THE TOOLBAR.

IF THE COUPLER CANNOT SWIVEL PROPERLY, THE HOSE MAY PULL AT AN ANGLE WHICH CAUSES THE SEPARATION FORCE TO INCREASE GREATLY AND MAY BIND THE COUPLER PREVENTING SEPARATION. SINCE PULL AWAY EVENTS OFTEN OCCUR DURING A TURN, THE ABILITY OF THE COUPLER TO SWIVEL IS DESCRIBED AS CRITICAL TO THE OPERATION OF THE BREAK-AWAY COUPLING DEVICE.

ALL PIPING AND VALVES IN THE SYSTEM SHOULD BE ABLE TO WITHSTAND A PULL FORCE GREATER THAN 450 POUNDS. READ ALL MANUFACTURERS OPERATING INSTRUCTIONS AND DECALS BEFORE WORKING WITH ANY CONNECTIONS. READ AND FOLLOW THE BREAK-AWAY DEVICE MANUAL FOR CONNECTION AND DISCONNECTION PROCEDURES AND SAFETY PRECAUTIONS.

SAFETY

WHEN WORKING WITH NH3 CONNECTIONS, WEAR PROTECTIVE CLOTHING, GOGGLES AND GLOVES AND HAVE EMERGENCY WATER AVAILABLE FOR WASHING. ALWAYS STAND ON THE UPWIND SIDE AND AVOID BREATHING IN ANY CHEMICAL VAPORS.

MAINTENANCE

BEFORE EACH USE, VISUALLY INSPECT THE BREAK-AWAY COUPLING FOR LEAKS, DAMAGED OR BROKEN COMPONENTS. ALSO CHECK THAT THE NH3 STAND OPERATES PROPERLY, THAT THE VERTICAL SPRING IS NOT BROKEN, AND ALLOWS FREE SWIVEL MOVEMENT AS SHOWN IN DETAILS B & C AND SPRINGS BACK INTO THE NORMAL OPERATING POSITION AS SHOWN IN DETAIL A. CHECK AND TIGHTEN ALL HARDWARE AS NEEDED. THE BREAK AWAY COUPLING DEVICE SHOULD BE FULLY INSPECTED AT LEAST ONCE A YEAR OR REPLACED OR REPAIRED AS REQUIRED. REPLACE ENTIRE COUPLER BASED ON EXPIRATION DATES ON COUPLER DECALS.

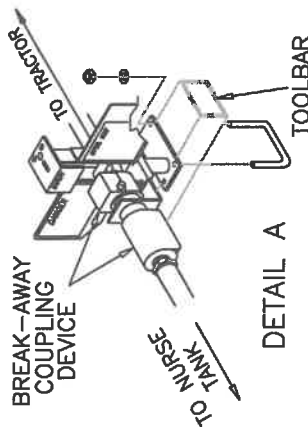
MANUALLY DISCONNECT OR RECONNECT INSTRUCTIONS

DANGER! DO NOT DISCONNECT OR RECONNECT UNDER PRESSURE

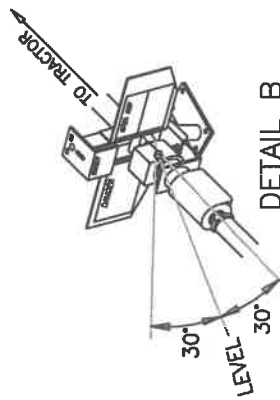
READ AND UNDERSTAND THE BREAK-AWAY COUPLING DEVICE MANUFACTURERS INSTRUCTIONS, WARNINGS AND SPECIFICATIONS BEFORE ATTEMPTING TO MANUALLY DISCONNECT OR RECONNECT THE COUPLING. FOLLOW THE BREAK-AWAY COUPLING DEVICE MANUFACTURERS BLEEDING THE SYSTEM PROCEDURES LISTED IN THEIR OWNERS MANUAL OR ON THEIR DANGER DECAL. ALWAYS WEAR PROTECTIVE GOGGLES, GLOVES, CLOTHING AND HAVE EMERGENCY WATER AVAILABLE FOR WASHING WHEN WORKING WITH NH3. ALWAYS DIRECT BLENDS AWAY FROM YOUR FACE OR BODY.

WARNING

FAILURE TO READ AND UNDERSTAND THE INSTRUCTIONS CONTAINED IN THESE INSTALLATION, OPERATION, AND MAINTENANCE INSTRUCTIONS COULD LEAD TO PROPERTY DAMAGE, SERIOUS INJURY OR DEATH! READ AND UNDERSTAND THE BREAK-AWAY COUPLING AND NH3 STAND MANUFACTURERS MANUALS COMPLETELY.

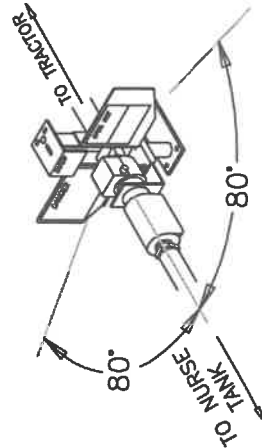


DETAIL A



DETAIL B

MUST SWIVEL A MINIMUM OF 30° UP AND 30° DOWN (VERTICAL MOVEMENT) (SHOWN 30° DOWN)

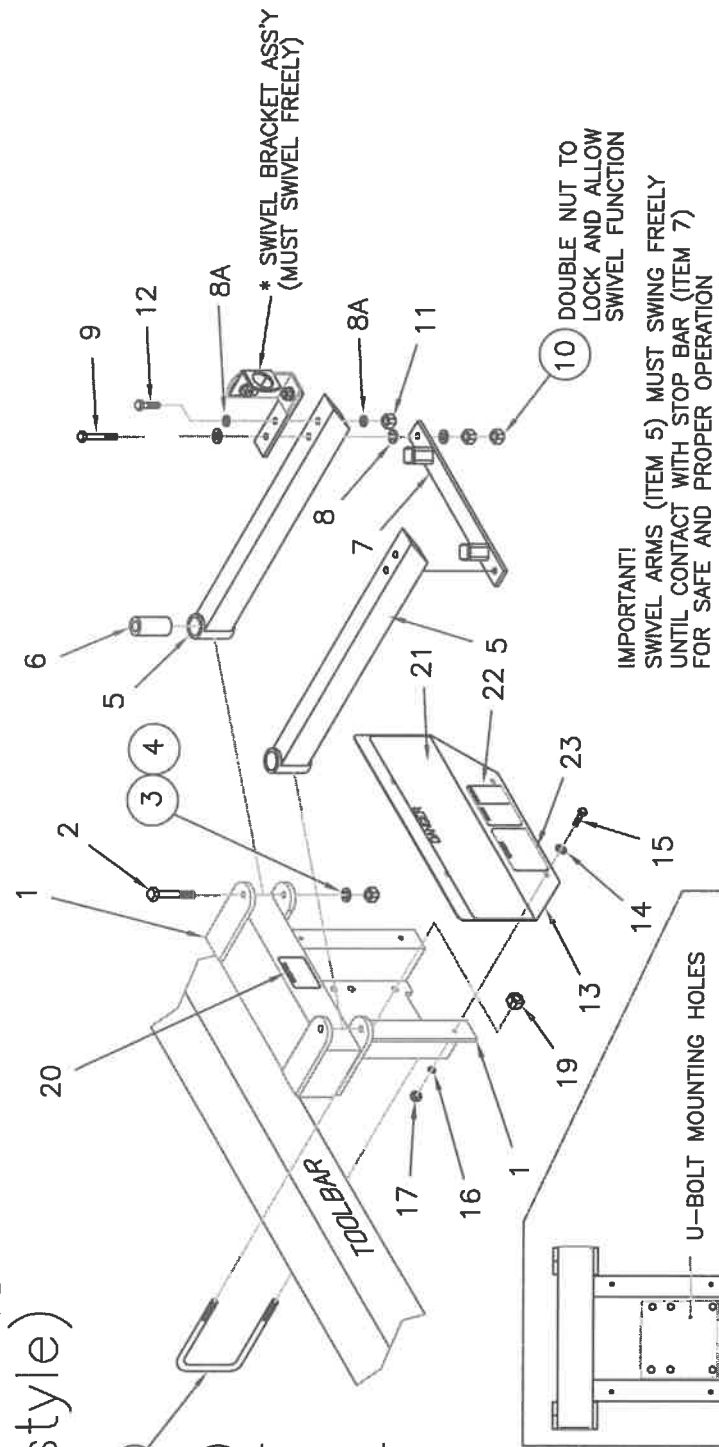


DETAIL C

MUST SWIVEL A MINIMUM OF 80 DEGREES RIGHT AND 80° LEFT (HORIZONTAL MOVEMENT)

NH3 QUICK COUPLER STAND KIT (2015) for NH3 TOOLBARS (swing arm style)

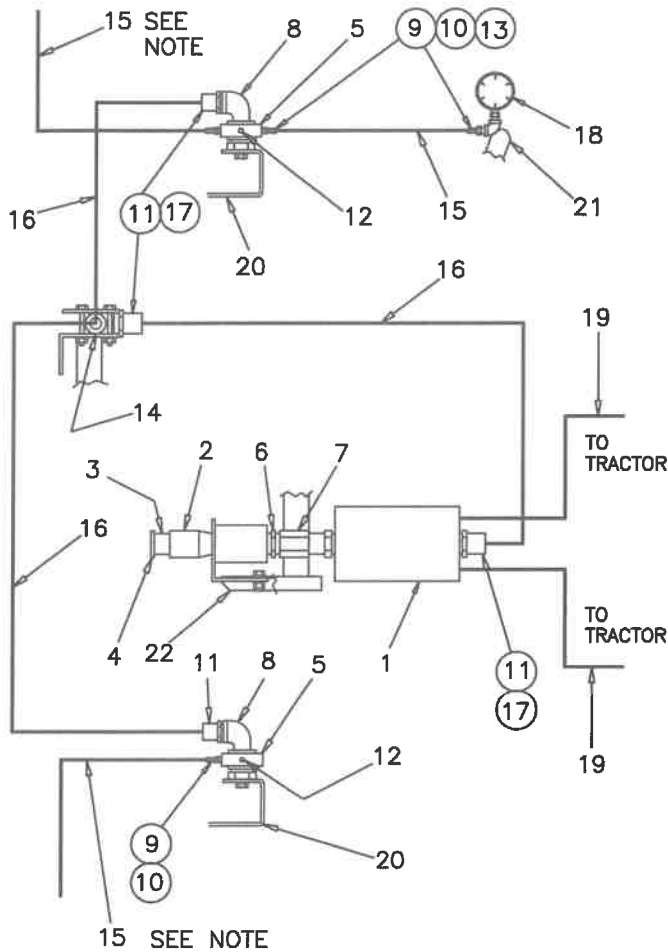
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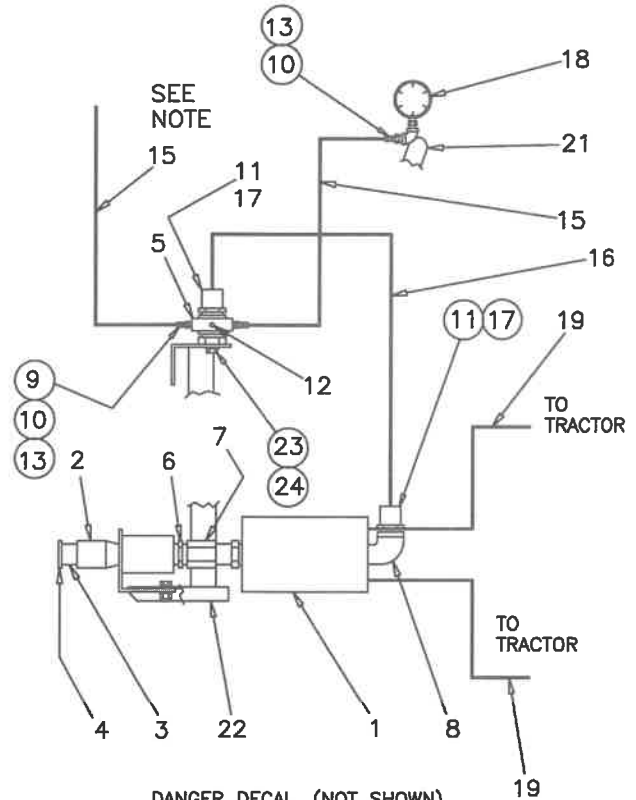
- 47015908 COMPLETE SINGLE QUICK DISCONNECT BRKT ASSEMBLY (INCLUDES ITEMS 1 THRU 24) (FITS 4 X 6 TOOLBAR FRAME ONLY)
- 47025908 COMPLETE SINGLE QUICK DISCONNECT BRKT ASSEMBLY (INCLUDES ITEMS 1 THRU 24) (FITS 6 X 6 TOOLBAR FRAME ONLY)
- 47035908 COMPLETE DUAL QUICK DISCONNECT BRKT ASSEMBLY (INCLUDES ITEMS 1 THRU 24) (FITS 4 X 6 TOOLBAR FRAME ONLY)
- 47045908 COMPLETE DUAL QUICK DISCONNECT BRKT ASSEMBLY (INCLUDES ITEMS 1 THRU 24) (FITS 6 X 6 TOOLBAR FRAME ONLY)

ITEM	SINGLE QTY	DUAL QTY	DESCRIPTION	PART NO.	DESCRIPTION	ITEM	SINGLE QTY	DUAL QTY	DESCRIPTION	PART NO.	DESCRIPTION
1	1	1	HINGE MOUNT WELDMENT	47005908	HINGE MOUNT WELDMENT	14	4	4	18811100	FLATWASHER, USS 5/16 ZC	
2	1	2	BOLT, HEX 3/4 NC X 6 GR5 ZC	18058458	BOLT, HEX 3/4 NC X 6 GR5 ZC	15	4	4	18056424	BOLT, HEX 5/16NC X 1 1/4 ZC	
3	1	2	FLATWASHER, 3/4 ZC	18811800	FLATWASHER, 3/4 ZC	16	4	4	18891110	LOCKWASHER, 5/16 ZC	
4	1	2	NUT, CENTER LOCK 3/4 NC ZC	18458400	NUT, CENTER LOCK 3/4 NC ZC	17	4	4	18406400	NUT, HEX 5/16 NC ZC	
5	1	2	SWING ARM WELDMENT	47005901	SWING ARM WELDMENT	18	2	2	47009847	U-BOLT, 5/8 (fits 6 x 6 tube)	
6	1	2	SWIVEL BUSHING	47005904	SWIVEL BUSHING	OR					
7	1	1	TIE BAR WELDMENT	47005914	TIE BAR WELDMENT	18A	2	2	47006951	U-BOLT, 5/8 (fits 4 x 6 tube)	
8	3	6	FLATWASHER, 1/2 USS ZC	18811400	FLATWASHER, 1/2 USS ZC	19	4	4	18417900	NUT, HEX 5/8 NC ZC	
8A	2	4	FLATWASHER, 1/2 SAE ZC	18851400	FLATWASHER, 1/2 SAE ZC	20	1	1	699105	DECAL, SAFETY INSTRUCTIONS	
9	2	2	BOLT, 1/2 NC X 5 LONG GR5 ZC	18057454	BOLT, 1/2 NC X 5 LONG GR5 ZC	21	1	1	FM125-2000	DECAL, DANGER, (Flomax coupler safety)	
10	2	4	NUT, HEX 1/2 NC ZC	18417400	NUT, HEX 1/2 NC ZC	22	1	1	699103	DECAL, OPER & MAINT. INSTRUCTIONS	
11	2	4	LOCKNUT, HEX 1/2 NC ZC	18457650	LOCKNUT, HEX 1/2 NC ZC	23	1	1	699102	DECAL, DANGER, (hazard, don't breathe)	
12	2	2	BOLT, 1/2 NC X 1 1/4 LG GR5 ZC	18057424	BOLT, 1/2 NC X 1 1/4 LG GR5 ZC						
13	1	1	DECAL PANEL	47005900	DECAL PANEL						

NH3 APPLICATION SCHEMATIC WITH 2 MANIFOLDS



NH3 APPLICATION SCHEMATIC WITH ONE MANIFOLD



DANGER DECAL, (NOT SHOWN) WHICH IS SUPPLIED WITH ITEM 2, (QUICK COUPLER) ATTACH TO FIELD HITCH

NOTE: FOR ITEM 15 CUT IDENTICAL LENGTHS OF TUBING FOR EACH KNIFE.

ITEM	PART NO.	DESCRIPTION	34 FT. TOOLBAR SHANK SPACING			42 FT. TOOLBAR SHANK SPACING			52 FT. TOOLBAR SHANK SPACING					
			15"	18"	30" 36"	15"	18"	30" 36"	15"	18"	30" 36"			
1	100186	B-9500 METER												
2	100399	QUICK COUPLER	1	-	ALL									
3	111430	ACME ADAPTER	1	-	ALL									
4	111585	DUST CAP W/CHAIN	1	-	ALL									
5	111259	MANIFOLD, 1/4 X 16 PORT	X	X	1	1								
5	100147	MANIFOLD, 1/8 X 18 PORT	2	X	X	X	2	2	1	1	X	2	2	2
5	100170	MANIFOLD, 1/8 X 24 PORT	X	1	1	1	X	X	X	X	2	X	X	X
6	5404-20	HEX. PIPE NIPPLE, 1 1/4	1	-	ALL									
7	5000-20-HEX	HEX. COUPLING, 1 1/4	1	-	ALL									
8	72306	STREET ELBOW, 1" NPT	2	1	1	1	2	2	1	1	2	2	2	2
9	100172	HOSE BARB, 1/8 X 3/8 HOSE	28	24	X	X	36	29	18	16	42	35	22	18
10	111510	HOSE BARB, 1/4 X 3/8 HOSE	1	1	15	13	1	1	1	1	1	1	1	1
11	200277	HOSE BARB, 1 X 1 HOSE	3	2	2	2	3	3	2	2	3	3	3	3
12	72025	PIPE PLUG, 1/8 NPT	8	X	X	X	X	7	X	2	6	1	14	18
12	72019	PIPE PLUG, 1/4 NPT	X	X	3	5								
13	602305	HOSE CLAMP, (WIRE TYPE)	56	48	28	24	72	58	36	32	85	70	44	36
14	72292	TEE, 1" NPT	1	X	X	X	1	1	X	X	1	1	1	1
15	15017005	TUBING 3/8" (FT.=)	325	440	280	240	545	450	440	390	840	700	440	360
16	15018576	TUBING 1" (FT.=)	31	3	3	3	31	31	3	3	31	31	31	31
17	200252	HOSE CLAMP, (SCREW TYPE)	6	2	2	2	6	6	2	2	6	6	6	6
18	100352	GAUGE, (0-60)	1	-	ALL									
19	609220	HYD. HOSE, 1/4 X 22 FT.	2	-	ALL									
20	70245	MANIFOLD STAND	2	X	X	X	2	2	X	X	2	2	2	2
21	47010168	GAUGE BRACKET	1	-	ALL									
22	47010175	NH3 STAND ASSEMBLY	1	-	ALL									
23	18056822	3/8-16 NC X 1" BOLT	X	X	2	2								
24	18406800	3/8 LOCKWASHER	X	X	2	2								

BREAK-AWAY COUPLING DEVICE (BACD) SWING ARM ASSEMBLY FOR NH3 TOOLBARS

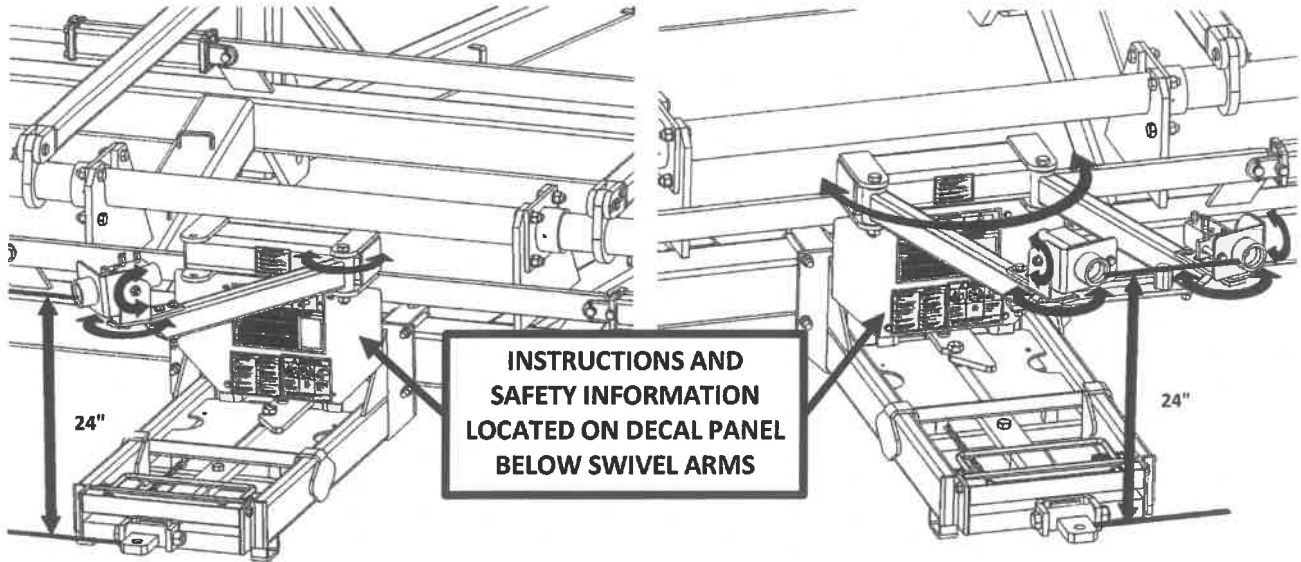


Figure 1: Single Swing Arm

Figure 2: Dual Swing Arms

The purpose of the break-away coupling device (BACD) is to provide an automatic valve closure to limit the potential hazard of NH3 released to the atmosphere in the event of a trailing nurse tank becoming inadvertently unhitched and disconnected from the toolbar.

The Heartland Ag Systems Equipment swing arm style NH3 stand securely mounts the BACD to the toolbar while allowing it to freely swivel over 80° left to right (horizontally) and 30° up and down (vertically) in each direction as well as positions the coupler 24" above the nurse tank hitch connection point as shown above in figures 1 and 2. "Super Shooter" style NH3 stands were discontinued in 2015 and should be updated to the swing arm style NH3 stands.

Follow the BACD manufacturer's installation, maintenance, and operation recommendations. Refer to your specific toolbar model owners manual for NH3 stand assembly detail and parts requirements. Before each use visually inspect the BACD for leaks, damage, or loose components. Also check that the NH3 stand operates properly and all decals are in place and can be easily read. Be sure to follow all manufacturer's safety precautions - **FAILURE TO READ AND UNDERSTAND THE SAFETY INSTRUCTIONS COULD LEAD TO PROPERTY DAMAGE, SERIOUS INJURY, OR DEATH.** The BACD must be fully inspected annually and repaired or replaced as required.

When working with NH3 connections wear protective clothing, goggles, and gloves and have emergency water available. Always stand on the upwind side and avoid breathing in chemical vapors. **DO NOT DISCONNECT OR RECONNECT UNDER PRESSURE.**

The links and QR Codes below direct you to the MN Department of Agriculture BACD parts and installation videos.

NH3 Break-Away Coupling Device Installation
(<https://www.youtube.com/watch?v=OEPNeNZwvCE>)



NH3 Break-Away Coupling Device Parts
(<https://www.youtube.com/watch?v=Rn1Ro8jWh3M>)



The links and QR codes below direct you to the Continental and Squibb Taylor BACD operating/installation instructions.

Continental B-SWV-125 & B-SWV-150-G Couplers
(<http://www.continentalnh3.com/pdfs/B-SWV-125%20150%20G.pdf>)



Squibb Taylor Flo-Max Couplers
([http://www.squibbtaylor.com/uploaded/FM1.25-1000%20\(2008\).pdf](http://www.squibbtaylor.com/uploaded/FM1.25-1000%20(2008).pdf))



