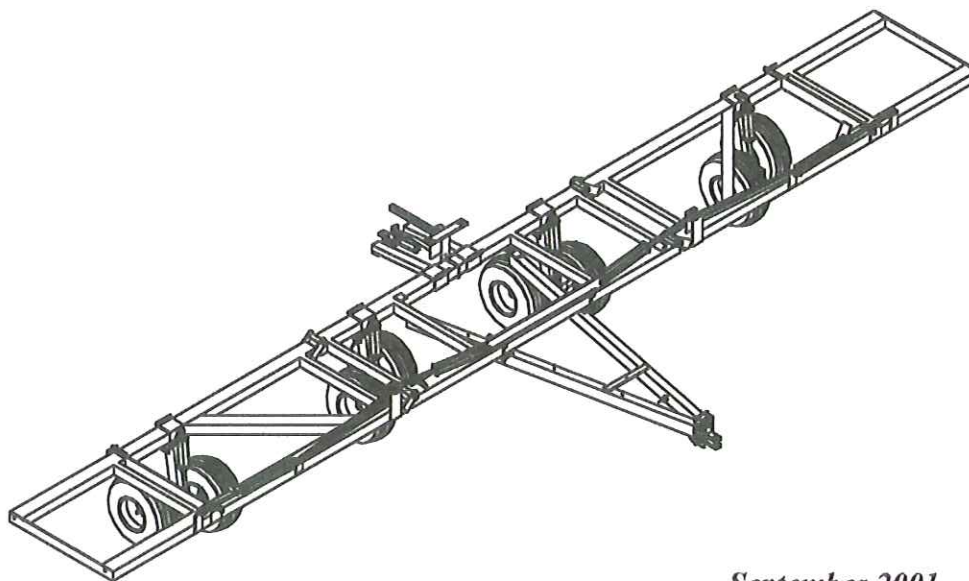




*PROGRESSIVE
FARM PRODUCTS, INC.*

OPERATOR'S MANUAL
1500 TWIN FRAME
ANHYDROUS TOOLBAR



September 2001

COME VISIT US ON THE WEB AT: www.progressivefarm.com

SETUP AND OPERATION

When ordering parts, provide the complete serial and model number, as well as the desired part number and description.

For convenience and future reference, record the following information in the spaces provided below:

DATE PURCHASED: ____/____/____

DEALER NAME: _____

DEALER PHONE: _____

MODEL NUMBER: _____

SERIAL NUMBER: _____

NOTE: Throughout this manual, references of “right” or “right side” and “left” or “left side” are always from a point behind the implement facing forward, in the direction of travel.

Index

Introduction	1
Safety Rules	2 - 3
Recommended Tire Pressures	3
Bolt Torque	4 - 5
Lubrication & Maintenance	6
Assembly Instructions	7 - 9
Hardware Packages	10 - 13
Mainframe Set-up	15
Mainframe Wheel Assembly	16 - 17
Depth Stop & Transport Lock Usage	18
Inner Wing Assembly	19
Inner Wing Hydraulics	20 - 21
Outer Wing/Hydraulics Assembly	22 - 23
Wing Wheel Assembly	24 - 25
Optional Tandem Wheel Assembly	26 - 29
Hydraulic Lift/Wingfold System	30 - 33
Hose Routing/Hydraulic Components	34 - 35
Rear Hitches	36 - 37
Shank Mount Assemblies	38 - 45
Offset Bracket Assembly	46
Disc Sealer Assembly	47

Index

Anhydrous Set-up	48 - 54
Safety Light Package	55 - 56
Hub Assemblies	57 - 59
Cylinder Breakdowns	60 - 62
Shank Configurations	63 - 71
Warranty	

Introduction

The purpose of this manual is to assist in the assembly, operation, and maintenance of your Model 1500 Toolbar. The extra care given by the operator will compliment the efficient and economical use of this machine for years to come.

During the assembly process, it will be necessary to attach various components together using pins and shaft of various sizes. Please take the extra time required to remove excess paint from the pins and shafts as well as the bushing bores that they will be placed through. Anti-seize or an equivalent product should be applied to all non-greasable joints and pins. The time and effort spent now will be well rewarded in time savings in the future.

Follow the assembly sequence provided in the illustrations and part descriptions. Before you begin assembly, read this manual and become acquainted with the various components of this implement.

Thank You.

SAFETY FIRST!

FOLLOW THESE RULES:

Comply with your state and local laws governing highway safety while moving machinery on the highway.

The SMV reflector emblem should be used at all times on public roads, and always use the flashing warning lights on your tractor.

Drive at a reasonable speed to maintain complete control of your machine at all times. Do not exceed 20 MPH (32.2 km/h) while transporting. Avoid heavily traveled roads whenever possible.

Hydraulic fluid escaping under pressure can have enough force to penetrate your skin. If you are injured by escaping fluid, see a doctor at once. Serious infection or reaction can result if medical treatment is not given immediately. Make sure all connections are tight and that hoses and lines are in good condition before applying pressure to the system. Relieve all pressure before disconnecting any lines or performing other work on the hydraulic system. To find a leak under pressure, use a small piece of cardboard or wood, **NEVER** use your hands.

At least once a year, inspect all hydraulic hoses for leaks, cracks, abrasions, and pinched areas. Tighten fittings or replace hoses as needed.

Always be sure the hydraulic lines and cylinders are free of air and do not leak. After connecting any new parts, replacing old parts, or servicing the hydraulic components, carefully cycle the hydraulic cylinders several times to purge trapped air from the system. Check all the connections for any leakage.

Always block up raised equipment when servicing it. **NEVER** rely on the hydraulic system to support the implement during servicing.

SAFETY FIRST!

FOLLOW THESE RULES:

Keep all safety equipment, such as hitch pins, chains, SMV emblems, lights, reflectors, etc... in good repair. Please note all safety decals, and keep them in place. New decals are available from your dealer.

Misuse, abuse, neglect, or modification of this machine can cause:

- mechanical breakdown
- property damage
- personal injury or death

Always use proper safety precautions and common sense. Set a good example and show your workers how to work safely, be an example, not a statistic.

Recommended Tire Pressures

Tire Size & Ply	Pressure
13.6 x 38 - 12 ply	44 PSI
12.5L x 15 - 12 ply	50 PSI
12.5L x 15 - 8 ply	36 PSI
16.5 x 16.1 - 10 ply	36 PSI
18.4 x 26 - 10 ply	26 PSI
5:30 x 12 - 6 ply	55 PSI
18 x 8:50 x 8 - 4 ply	22 PSI
4:80 x 8 - 4 ply	42 PSI

BOLT TORQUE

- 1.** Improperly tightened bolts will result in damage, breakage, expense, and lost time.
- 2.** Always replace bolts with the specified grade and type.
- 3.** Torque all fasteners to the proper value during assembly, then check after every two (2) hours of operation until they remain tight.
- 4.** Use the following torque chart as a guide to insure proper tightening of the fasteners.
- 5.** Make a daily inspection of the implement checking for loose bolts as well as leaking hoses.

BOLT Ø - TPI	 GRADE 2	 GRADE 5	 A - 325	 GRADE 8
3/8 - 16	25	35		50
7/16 - 14	35	55		80
1/2 - 13	55	85		125
9/16 - 12	75	125		175
5/8 - 11	105	170		235
3/4 - 10	185	305		425
7/8 - 9	170	445		690
1 - 8	260	670		1030
1-1/8 - 7	365	900		1460
1-1/4 - 7	515	1275		2060
1-3/8 - 6	675	1675		2700
1-1/2 - 6	900	2150		3500

TORQUE VALUES ARE IN FT./LBS. AND ARE BASED ON PLATED OR GREASE COATED HARDWARE. INCREASE VALUES 5 - 10% FOR FINE THREADS. USE 65% OF THE LISTED VALUE FOR JAM NUTS.

SAFETY DECALS – SERIAL NUMBER – LUBRICATION

LUBRICATE EACH ZERK AFTER EVERY TEN HOURS OF OPERATION.

USE MULTI-PURPOSE LITHIUM GREASE.

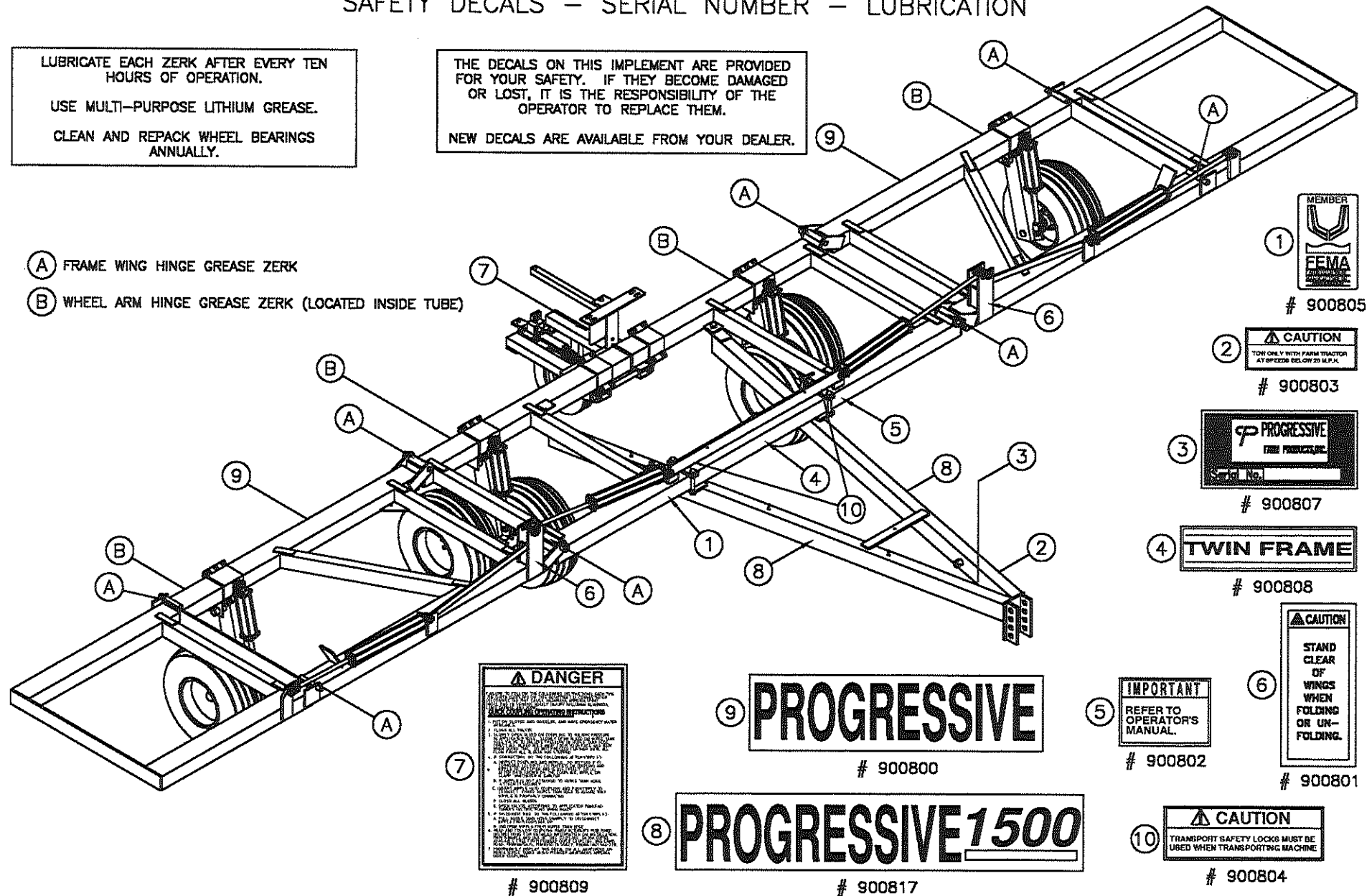
CLEAN AND REPACK WHEEL BEARINGS ANNUALLY.

THE DECALS ON THIS IMPLEMENT ARE PROVIDED FOR YOUR SAFETY. IF THEY BECOME DAMAGED OR LOST, IT IS THE RESPONSIBILITY OF THE OPERATOR TO REPLACE THEM.

NEW DECALS ARE AVAILABLE FROM YOUR DEALER.

(A) FRAME WING HINGE GREASE ZERK

(B) WHEEL ARM HINGE GREASE ZERK (LOCATED INSIDE TUBE)



Assembly Instructions

1500 Anhydrous Toolbar

Be sure to remove excess paint from pins and bushing bores. Apply a thin coat of grease to pins before installing them. Use "Anti-seize" or equivalent on all non-greasable joints and pins. Never strike a pin directly with a hammer – always use a block to absorb the shock if a pin does not easily fit. Striking a pin directly will cause the end of the pin to spread.

Be sure to lubricate all grease zerks. Refer to the lubrication drawing for all zerk locations and time intervals for greasing.

Mainframe, Wing, and Hitch Assembly

1. Lay the hitch on the ground, placing the mainframe on top of it.
2. Center the mainframe on the hitch and attach the two together using the hardware from bag #102001.
3. Lay the wings out beside the mainframe and attach the wings to the mainframe using the pins and hardware included in the wing hinge (make sure the paint is removed and pins are greased prior to installation).

Mainframe/Wing Wheel Assembly

1. Lift the toolbar into the air from the rear center of the mainframe.
2. Place the wheel arms in their approximate locations (refer to the correct shank spacing drawings for the exact wheel placement).
3. Attach the saddle clamps using hardware from one of the following bags: Single mainframe/Single wings – 102078, Tandem/Single – 102079, Tandem/Tandem – 102080.
4. Attach the wheel arms to the clamp assembly using pins and hardware included on the lower clamp assembly.
5. Attach the 3-1/2" x 10" rephase cylinders to the wheel arms. Install tire/wheel assemblies and transport locks. **Note: Make sure lug bolts are tightened prior to transporting of unit.**
6. Lower the mainframe, letting the toolbar rest on the mainframe wheels. Raise one of the wings and repeat the steps 1-5 listed above only using 3-1/4" x 10" rephase cylinders on the wings.
7. Repeat process for opposite wing.
8. After both wing wheels are installed, lift mainframe back into the air, relieving pressure on the cylinders. Remove the safety locks and lower the bar.

Attaching the Wing Fold Cylinders

1. Locate the 4" x 24" hydraulic cylinders. Using hardware from the cylinders and hardware bag #213002, attach the cylinders to the mainframe, leaving the clevis end unattached.
2. Be sure to attach the butt end of the cylinder to the mainframe.

Hydraulic Hose Installation

1. Refer to the "Hydraulic Schematic Drawings". Lay out the hydraulic hoses from hose packages #212002 (Wingfold) and #212052 (Wheel Mount) in their approximate locations.
2. Using hardware from bag #213002 (Wingfold) and #213051 (Wheel Mount) to attach the hoses to the divider/combiner valve and respective cylinders.
3. Attach the hoses to the bolts welded on the right hitch tube using hose holdowns. **Do not tie hoses down at this point.**
4. Hook up the toolbar to a hydraulic unit and charge all cylinders with oil to purge the air from the cylinders. Attach the clevis ends of the cylinders to the toolbar.

Coulter and Shank Assembly

1. Lower the toolbar to a good working height.
2. Select the proper exploded view drawings (Rigid Shank or Auto Reset Shank). Use hardware from bag #102027 for rigid shank or #102028 for auto reset for assembly and installation of shank mounts.
3. On rigid shank mounts, be sure to leave one inch of threads below the lock nut of the spring loaded T-Rod and a distance of 1-1/2" between the bottom of the "T" and the 3/4" nut.
4. On auto reset shanks, be sure to leave 1/2" of threads below the lock nut of the spring loaded T-Rod and a distance of 1-7/8" – 2" between the bottom of the "T" and the 3/4" nut. The spring should be compressed to approximately 9-1/2" to 9-3/4". **Note: These measurements are approximate. Field conditions may cause the need for further adjustments.**
5. Refer to the coulter spacing drawings in the back of the book for correct locations/placement of shank mounts.
6. Note there are left and right shank assemblies. When placing an assembly, notice that the shank will line up with either the left or right u-bolt.

Disk Sealers

1. Use hardware from bag #102029 to assemble and mount the disk sealers to the shank.
2. For Rigid Shank Mounts, measurement (when tightened down) should be approximately 15-1/2" from the back edge of the shank mount to the back side (at the bend) of the disk sealer shank mounting bracket (part #801694).

3. For Auto Reset Shank Mounts, measurement (when tightened down) should be approximately 6" from the back edge of the shank mount to the back side (at the bend) of the disk sealer shank mounting bracket (part #801694).

Note: Measurements are approximate. Adjustments may need to be made depending upon the depth the knives are running in the ground. For optimum performance, do not run the sealer blades any more than 2-3 inches in the ground.

Anhydrous Rear Hitch Assembly

1. Place the rear hitch behind the toolbar, centering it on the mainframe. Using the hardware from bag #102030 (Rigid Rear Hitch) or #102035 (Floating Rear Hitch) to attach to the toolbar.

NH3 Bracket and Gauge Assembly

1. Attach the bracket, swing arm, and gauge stand as shown using hardware from bag #102182 (3/8" NH3 Kit 37-1/2' – 40'), 102183 (1/2" NH3 Kit 37-1/2' – 40'), 102184 (3/8" NH3 Kit 42-1/2'), or 102185 (1/2" NH3 Kit 42-1/2').
2. Attach all hoses and fittings as shown in the schematic.
3. It may necessary to plug some of the outlets on the manifolds. It is strongly recommended to space these evenly around the manifold.
4. Tie down the hydraulic and NH3 hoses with tie straps (not provided) to keep them from being pinched in the hinge points.

Safety Light Assembly

1. Using the hardware from bag #102032, attach the lights on the rear tube of the wings as shown making sure the red and yellow lights are visible from the rear of the bar.

1500 Hardware Packages 37-1/2' - 42-1/2'

Qty	Part #	Description
1	102001	1300/1500 Mainframe Hdwe Bag
2	101128	3/8" - 16 x 2.5" Hex Bolt - Grade 5
1	101171	3/4" - 10 x 2" Hex Bolt
4	101205	1" - 8 x 9" Hex Bolt - Grade 5
1	101215	3/4" - 10 Hex Nut
6	101217	1" - 8 Hex Nut
1	101224	3/4" Lock Washer
6	101226	1" Lock Washer
1	101233	3/4" Flat Washer
2	101256	1" - 8 x 3" Hex Bolt - Grade 8 Yellow Zinc
2	101455	3/8" - 16 Top Lock Nut
2	400125	1" x 1.5" x 10" Hitch Clamp Plate
1	602178	1.625" x 9" Clevis Pin

Qty	Part #	Description
1	102026	Offset Bracket Hardware Bag
2	101438	3/4" - 10 x 7-1/2" Hex Bolt
2	101224	3/4" Lock Washer
2	101215	3/4" - 10 Hex Nut

Qty	Part #	Description
1	102027	R/S Coultter Assembly Hardware Bag
2	101149	1/2" - 13 x 2" Hex Bolt
1	101179	3/4" - 10 x 6" Hex Bolt - Grade 5
2	101213	1/2" - 13 Hex Nut
8	101215	3/4" - 10 Hex Nut
6	101222	1/2" Lock Washer
6	101224	3/4" Lock Washer
1	101231	1/2" Flat Washer
2	101233	3/4" Flat Washer
2	101315	3/4" - 10 x 7" x 6-1/2" U-Bolt PLT
1	101422	3/4" - 10 x 3" Hex Bolt - Gr. 8 Yellow Zinc
1	101459	3/4" - 10 Toplock Nut
4	301193	1/2" - 20 x 1.25" Whiz Bolt
1	400095	Compression Spring
2	400096	Spring Retainer Casting
1	801198	Spring Tension Rod Weldment

Qty	Part #	Description
1	102030	NH3 Rear Hitch Hardware Bag
1	101171	3/4" - 10 x 2" Hex Bolt
8	101173	3/4" - 10 x 3" Hex Bolt
1	101204	1" - 8 x 8" Hex Bolt
9	101215	3/4" - 10 Hex Nut - PLT
9	101224	3/4" Lock Washer - PLT
1	101266	3/16" Hair Pin
1	101330	Compression Spring
1	101461	1" - 8 Top Lock Nut
1	801195	1" x 6" Welded Tube Handle Pin
1	801771	Drawbar Clevis

Qty	Part #	Description
1	102028	Auto Reset/Coultter Assy Hdwe Bag
2	101149	1/2" - 13 x 2" Hex Bolt - PLT
1	101153	1/2" - 13 x 4" Hex Bolt - Grade 5
2	101173	3/4" - 10 x 3" Hex Bolt - PLT
1	101175	3/4" - 10 x 4" Hex Bolt - PLT
2	101179	3/4" - 10 x 6" Hex Bolt - Grade 5
1	101180	3/4" - 10 x 7" Hex Bolt - PLT
3	101213	1/2" - 13 Hex Nut - PLT
12	101215	3/4" - 10 Hex Nut - PLT
7	101222	1/2" Lock Washer - PLT
8	101224	3/4" Lock Washer - PLT
1	101231	1/2" Flat Washer - PLT
4	101233	3/4" Flat Washer - PLT
4	101242	3/4" - 10 Self-Locking Hex Nut
1	101252	1/4" - 28 Straight Zerk
2	101315	3/4" - 10 x 7" x 6-1/2" U-Bolt - PLT
2	101382	3/4" Jam Nut - PLT
1	101422	3/4"-10 x 3" Hex Bolt - Grade 8 Yellow Zinc
4	301193	1/2" - 20 x 1-1/4" Whiz Bolt
3	400095	Compression Spring
6	400096	Spring Retainer Casting
2	400201	1/2" x 2" x 6-1/2" Pivot Plate
2	602211	1.250" O.D. x .774" I.D. x 1-1/16" Bushing
1	801198	3/4"-10 x 15" Spring Tension Rod
2	801688	3/4" - 10 x 17-1/2" Spring Tension Rod

Qty	Part #	Description
1	102029	18" Disc Sealer Hdwe Bag
4	101149	1/2" - 13 x 2" Hex Bolt
2	101156	1/2" - 13 x 5-1/2" Hex Bolt
8	101211	3/8" - 16 Hex Nut
9	101213	1/2" - 13 Hex Nut
8	101220	3/8" Lock Washer
9	101222	1/2" Lock Washer
10	101231	1/2" Flat Washer
2	101299	5/8" Cup Washer
2	101355	1/2" - 13 x 2" x 2-1/2" U-Bolt
8	101357	3/8" - 16 x 1" Carriage Bolt
2	101457	1/2" - 13 Toplock Nut
1	400123	Compression Spring
1	602214	1" O.D. x .524" I.D. x 4-1/8" Bushing
1	801327	Disc Sealer Frame Bracket
1	801329	Spring Pivot Bolt & Bushing Assembly
2	801330	Sealer Arm Assembly
1	801694	Shank Mounting Bracket

1500 Hardware Packages 37-1/2' - 42-1/2'

1 102035 NH3 Floating Rear Hitch Hdwe Bag		
Qty	Part #	Description
2	101128	3/8" - 16 x 2-1/2" Hex Bolt
1	101171	3/4" - 10 x 2" - PLT - GR6
8	101173	3/4" - 10 x 3" - PLT - GR5
1	101204	1" - 8 x 8" Hex Bolt
9	101215	3/4" - 10 Hex Nut - PLT
9	101224	3/4" Lock Washer - PLT
1	101266	3/16" Hair Pin
1	101330	Compression Spring
2	101455	3/8" - 16 Top Lock Nut
1	101461	1" - 8 Top Lock Nut
4	301193	1/2" - 20 x 1-1/4" Whiz Bolt
1	801195	1" x 6" Welded Tube Handle Pin
1	801771	Drawbar Clevis

1 102032 1300/1500 Light Package Hdwe Bag		
Qty	Part #	Description
4	101102	1/4" - 20 x 1" Hex Bolt
4	101209	1/4" - 20 Hex Nut
4	101211	3/8" - 16 Hex Nut
4	101218	1/4" - 20 Lock Washer
4	101220	3/8" Lock Washer
2	101417	3/8" - 16 x 5" x 8.5" U-Bolt - PLT
1	400060	Light Mounting Bracket - Right
1	400061	Light Mounting Bracket - Left

1 102078 1300/1500 Wheel Gear Hdwe Bag - S/S		
Qty	Part #	Description
24	101173	3/4"-10 x 3" - PLT-GR5
24	101215	3/4"-10 Hex Nut - PLT
24	101224	3/4" Lock Washer - PLT
2	101257	3/8" x 3" Latch Pin
2	101258	3/32" x 1-1/2" Hair Pin
24	301151	Lug Bolt 9/16-18 x 1-1/8"
2	400083	8" Stroke Cylinder Safety Lock
2	450061	Stroke Control Kit

1 102079 1300/1500 Wheel Gear Hdwe Bag - T/S		
Qty	Part #	Description
24	101173	3/4" - 10 x 3" - PLT - GR5
24	101215	3/4" - 10 Hex Nut - PLT
24	101224	3/4" Lock Washer
2	101257	3/8" x 3" Latch Pin
2	101258	3/32" x 1-1/2" Hair Pin
36	301151	9/16" - 18 x 1-1/8" Lug Bolt
2	400083	8" Stroke Cylinder Safety Lock
2	450061	1-1/4" Stroke Control Kit

1 102080 1300/1500 Wheel Mount Hdwe Bag - T/T		
Qty	Part #	Description
24	101173	3/4" - 10 x 3" - PLT - GR5
24	101215	3/4" - 10 Hex Nut - PLT
24	101224	3/4" Lock Washer
2	101257	3/8" x 3" Latch Pin
2	101258	3/32" x 1-1/2" Hair Pin
48	301151	9/16" - 18 x 1-1/8" Lug Bolt
2	400083	8" Stroke Cylinder Safety Lock
2	450061	1-1/4" Stroke Control Kit

1 102182 3/8" NH3 Hdwe Bag 37-1/2' - 40'		
Qty	Part #	Description
2	101147	1/2" - 13 x 1" - PLT - Grade 5
1	101148	1/2" - 13 x 1-1/2" - PLT - Grade 5
1	101152	1/2" - 13 x 3-1/2" - PLT - Grade 5
1	101179	3/4" - 10 x 6" - PLT - Grade 5
4	101211	3/8" - 16 Hex Nut PLT
2	101213	1/2" - 13 Hex Nut PLT
3	101215	3/4" - 10 Hex Nut - PLT
4	101220	3/8" Lock Washer
2	101222	1/2" Lock Washer - PLT
3	101224	3/4" Lock Washer - PLT
1	101231	1/2" Flat Washer - PLT
1	101317	3/4" - 10 x 5" x 8-1/2" U-Bolt - PLT
2	101417	3/8" - 16 x 5" x 8-1/2" U-Bolt
2	400142	Manifold Bracket
36	700126	3/8" - 1/2" Stainless Hose Clamp
11	700211	1/4" NPT x 1/2" Manifold Plug
2	700235A	2.5" Stainless NH3 Gauge 0 -100 PSI
2	700256	1" St. Elbow - Black Pipe
2	700272	NH3 Manifold - 14 Outlet
1	700276	1-1/4" Quickcoupler Assembly
20	700277	1/4" NPT x 3/8" Hose Barb
1	700278	1-1/4" Male Coupler Tip (NH3)
2	700306	1" MNPT x 1" FNPT Swivel Coupler

1500 Hardware Packages 37-1/2' - 42-1/2'

Qty	Part #	Description
1	102183	1/2" NH3 Kit Hdwe Bag 37-1/2' - 40'
2	101147	1/2" - 13 x 1" Hex Bolt PLT
2	101148	1/2" - 13 x 1-1/2" Hex Bolt PLT
1	101152	1/2" - 13 x 3-1/2" - PLT - Grade 5
1	101179	3/4" - 10 x 6" - PLT - Grade 5
4	101211	3/8" - 16 Hex Nut PLT
1	101213	1/2" - 13 Hex Nut PLT
4	101215	3/4" - 10 Hex Nut - PLT
4	101220	3/8" Lock Washer
2	101222	1/2" Lock Washer - PLT
3	101224	3/4" Lock Washer - PLT
1	101231	1/2" Flat Washer - PLT
1	101317	3/4" - 10 x 5" x 8-1/2" U-Bolt - PLT
2	101417	3/8" - 16 x 5" x 8-1/2" U-Bolt
2	400142	Manifold Bracket
36	700126	3/8" - 1/2" Stainless Hose Clamp
20	700208	1/4" NPT x 1/2" Hose Barb
11	700211	1/4" NPT x 1/2" Manifold Plug
2	700235A	2.5" Stainless NH3 Gauge 0 -100 PSI
2	700256	1" St. Elbow - Black Pipe
2	700272	NH3 Manifold - 14 Outlet
1	700276	1-1/4" Quickcoupler Assembly
1	700278	1-1/4" Male Coupler Tip (NH3)
2	700306	1" MNPT x 1" FNPT Swivel Coupler

Qty	Part #	Description
1	102185	1/2" NH3 Hdwe Bag 42-1/2' - 45'
2	101147	1/2" - 13 x 1" - PLT - Grade 5
1	101148	1/2" - 13 x 1-1/2" - PLT - Grade 5
1	101152	1/2" - 13 x 3-1/2" - PLT - Grade 5
1	101179	3/4" - 10 x 6" - PLT - Grade 5
4	101211	3/8" - 16 Hex Nut PLT
2	101213	1/2" - 13 Hex Nut PLT
3	101215	3/4" - 10 Hex Nut - PLT
4	101220	3/8" Lock Washer
2	101222	1/2" Lock Washer - PLT
3	101224	3/4" Lock Washer - PLT
1	101231	1/2" Flat Washer - PLT
1	101317	3/4" - 10 x 5" x 8-1/2" U-Bolt - PLT
2	101417	3/8" - 16 x 5" x 8-1/2" U-Bolt
2	400142	Manifold Bracket
40	700126	3/8" - 1/2" Stainless Hose Clamp
22	700208	1/4" NPT x 1/2" Hose Barb
9	700211	1/4" NPT x 1/2" Manifold Plug
2	700235A	2.5" Stainless NH3 Gauge 0 -100 PSI
2	700256	1" St. Elbow - Black Pipe
2	700272	NH3 Manifold - 14 Outlet
1	700276	1-1/4" Quickcoupler Assembly
1	700278	1-1/4" Male Coupler Tip (NH3)
2	700306	1" MNPT x 1" FNPT Swivel Coupler

Qty	Part #	Description
1	102184	3/8" NH3 Hdwe Bag 42-1/2' - 45'
2	101147	1/2" - 13 x 1" - PLT - Grade 5
1	101148	1/2" - 13 x 1-1/2" - PLT - Grade 5
1	101152	1/2" - 13 x 3-1/2" - PLT - Grade 5
1	101179	3/4" - 10 x 6" - PLT - Grade 5
4	101211	3/8" - 16 Hex Nut PLT
2	101213	1/2" - 13 Hex Nut PLT
3	101215	3/4" - 10 Hex Nut - PLT
4	101220	3/8" Lock Washer
2	101222	1/2" Lock Washer - PLT
3	101224	3/4" Lock Washer - PLT
1	101231	1/2" Flat Washer - PLT
1	101317	3/4" - 10 x 5" x 8-1/2" U-Bolt - PLT
2	101417	3/8" - 16 x 5" x 8-1/2" U-Bolt
2	400142	Manifold Bracket
40	700126	3/8" - 1/2" Stainless Hose Clamp
9	700211	1/4" NPT x 1/2" Manifold Plug
2	700235A	2.5" Stainless NH3 Gauge 0 -100 PSI
2	700256	1" St. Elbow - Black Pipe
2	700272	NH3 Manifold - 14 Outlet
1	700276	1-1/4" Quickcoupler Assembly
22	700277	1/4" NPT x 3/8" Hose Barb
1	700278	1-1/4" Male Coupler Tip (NH3)
2	700306	1" MNPT x 1" FNPT Swivel Coupler

Qty	Part #	Description
1	102216	Single Regulator Hdwe Bag
2	101125	3/8" - 16 x 1" - PLT - Grade 5
2	101211	3/8" - 16 Hex Nut
2	101220	3/8" Lock Washer - PLT
2	201061	1/4" MNPT x 1/4" FNPT Swivel 90
1	400225	B9500 Regulator Mounting Bracket
1	700227	1" FNPT Tee - Black Pipe
1	700257	1" Close Nipple - Black Pipe
1	700275	1-1/4" Schedule 80 Coupler

Qty	Part #	Description
1	102217	1300/1500 Dual Regulator Hdwe Bag
4	101125	3/8" - 16 x 1" - PLT - Grade 5
2	101148	1/2" - 13 x 1-1/2" - PLT - Grade 5
4	101211	3/8" - 16 Hex Nut
4	101220	3/8" Lock Washer - PLT
2	101222	1/2" Lock Washer - PLT
2	101231	1/2" Flat Washer
2	201009	No. 6 MJIC Union Tee
2	201011	1/4" MNPT x No. 6 MJIC Tee
2	201061	1/4" MNPT x 1/4" FNPT Swivel 90
1	400213	Dual Regulator Mounting Plate
1	700255	1-1/4" Black MI Tee

1500 Hardware Packages 37-1/2' - 42-1/2'

1	212002	1500 Wingfold Hyd Hose Pkg 37-1/2' - 42-1/2'
Qty	Part #	Description
4	202010	1/4" x 108" x No. 6FJIC x No. 6FJIC Hose
1	202048	1/4" x 106" x No. 6FJIC x No. 6FJIC Hose
2	202123	1/4" x 174" x 3/8"MNPT x No. 6FJIC Hose
1	202137	1/4" x 28" x No. 6FJIC x No. 6FJIC Hose
1	202138	1/4" x 80" x No. 6FJIC x No. 6FJIC Hose

1	212052	1500 Wheel Gear Hyd Hose Pkg
Qty	Part #	Description
1	202124	3/8" x 28" x No. 8FJIC x No. 8FJIC Hose
2	202125	3/8" x 135" x No. 8FJIC x No. 8FJIC Hose
1	202128	3/8" x 96" x No. 8FJIC x No. 8FJIC Hose
1	202131	3/8" x 200" x No. 8FJIC x No. 8FJIC Hose
1	202133	3/8" x 159" x No. 8FJIC x No. 8FJIC Hose
2	202134	3/8" x 224" x No. 8FJIC x 1/2"MNPT Hose
1	202147	3/8" x 6" x No. 8 FJIC x No. 8 FJIC Hose

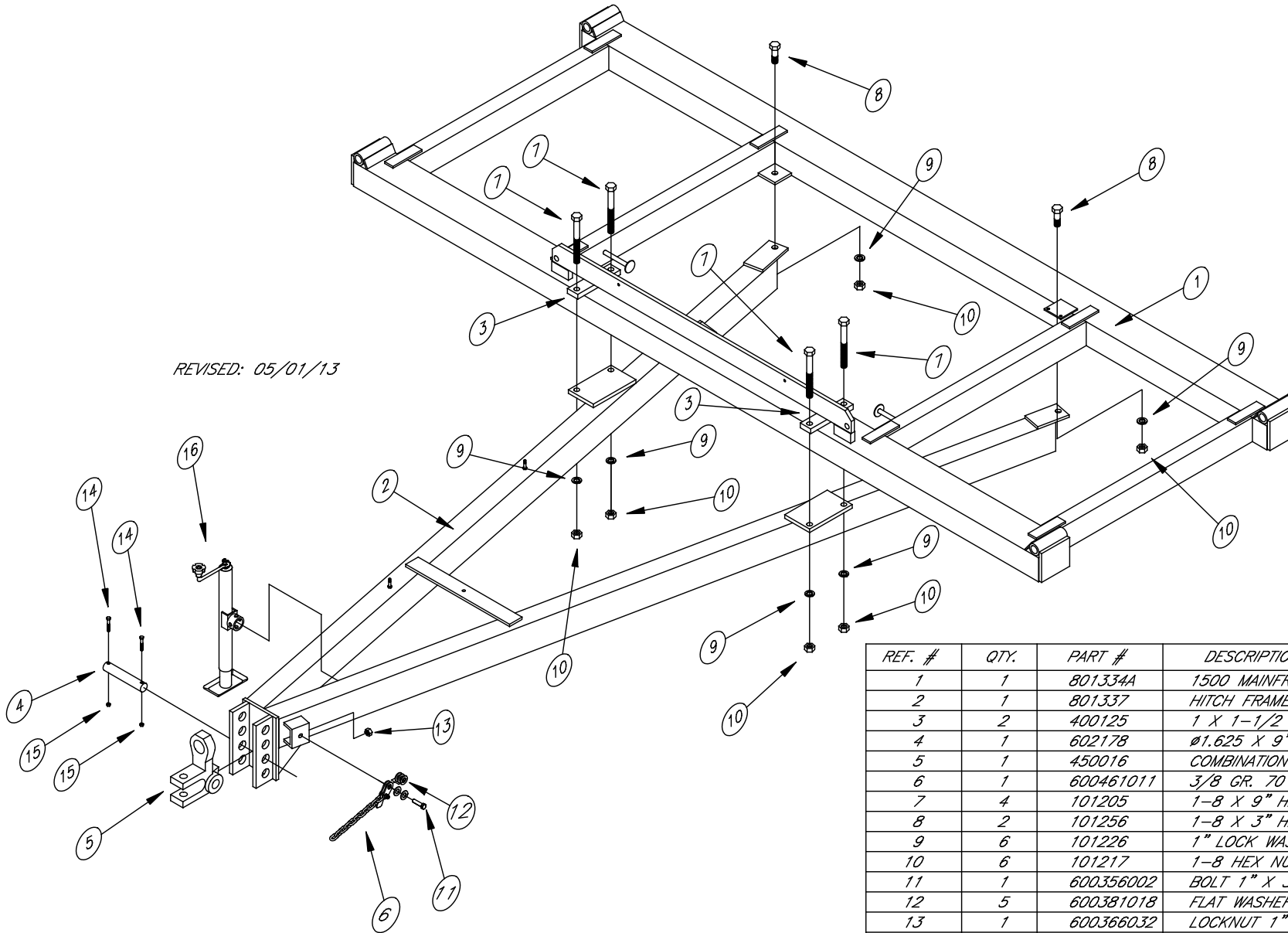
1	213002	1500 Wingfold Hyd Hdwe 37-1/2' - 42-1/2'
Qty	Part #	Description
3	101211	3/8" - 16 Hex Nut - PLT
3	101220	3/8" Lock Washer - PLT
2	101235	1" Flat Washer - Plated
2	101246	3/16" x 1-1/2" Cotter Pin
3	201001	No. 6 MJIC x No. 8 O-Ring Boss 90
2	201003	No. 6 MJIC x No. 8 O-Ring
4	201011	No. 6 MJIC x 1/2" MNPT Branch Tee
4	201012	No. 8 Male O-Ring x 1/4" FNPT Bushing
2	201014	1/2" MNPT x 3/8" FNPT Reducer Bushing
2	201044	No. 6 MJIC x No. 6 FJIC Restrictor
3	400080	4 Hose Hold Down Bracket
2	801613	1" x 5-1/4" Welded - Cylinder Pin

1	213051	1300/1500 Wheel Mount Hyd Hdwe Bag
Qty	Part #	Description
2	101130	3/8" - 16 x 3-1/2" Hex Bolt PLT
2	101211	3/8" - 16 Hex Nut PLT
2	101220	3/8" Lock Washer PLT
8	201002	No. 8 MJIC x No. 8 Male O-Ring Boss 90
3	201004	No. 8 MJIC x No. 8 Male O-Ring Strt.
1	201008	No. 8 MJIC x No. 6 Male O-Ring Strt.
1	201010	No. 8 MJIC Tee
2	201055	No. 8 FJIC x No. 8 Male O-Ring Swivel 90
1	201058	No. 8 FJIC x No. 8 MJIC Branch Tee
1	203011	Divider - Combiner Valve

This page was intentionally left blank.

MAINFRAME/HITCH ASSEMBLY

REVISED: 05/01/13

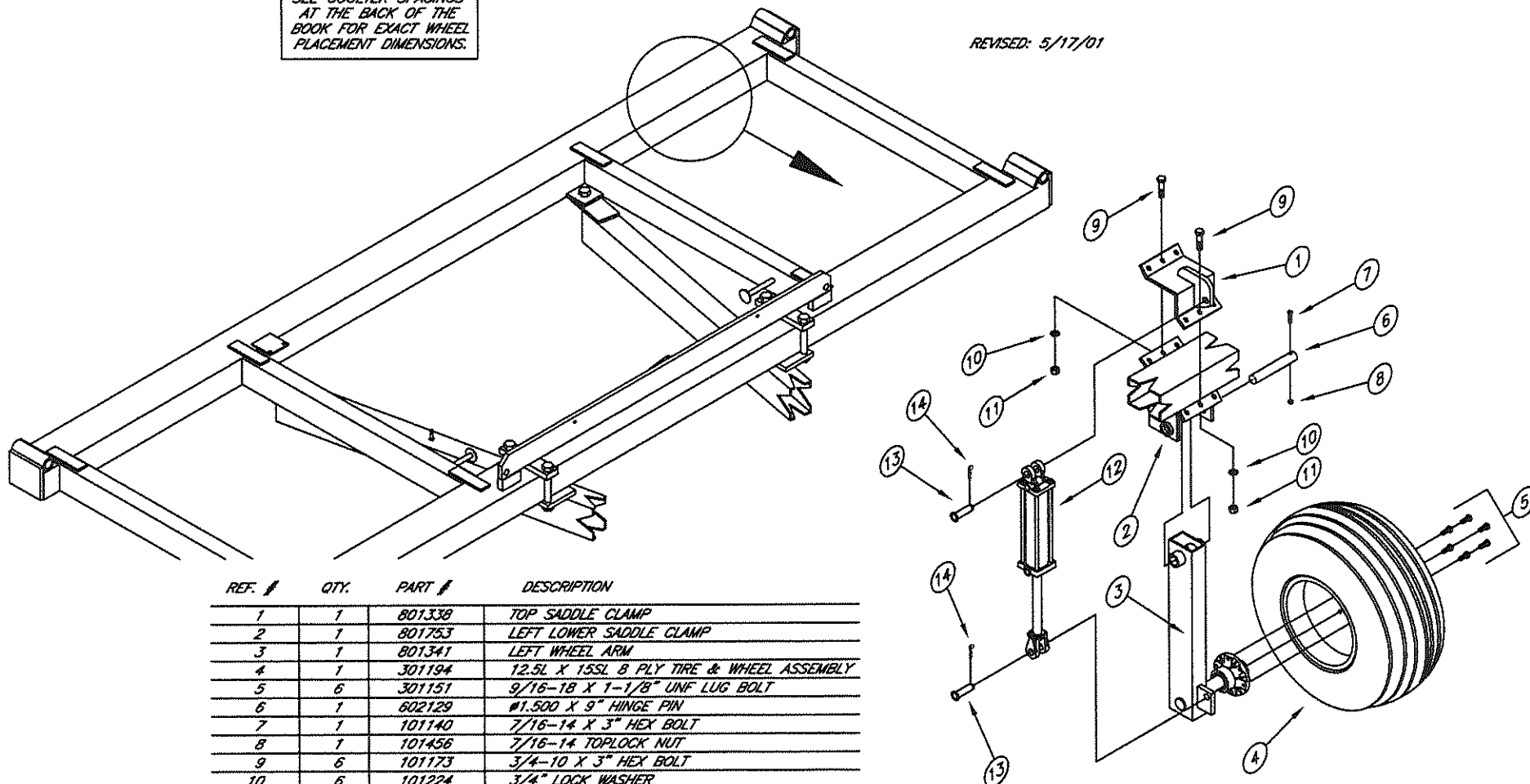


REF. #	QTY.	PART #	DESCRIPTION
1	1	801334A	1500 MAINFRAME
2	1	801337	HITCH FRAME
3	2	400125	1 X 1-1/2 X 10-1/4" CLAMP PLATE
4	1	602178	Ø1.625 X 9" CLEVIS PIN
5	1	450016	COMBINATION CLEVIS
6	1	600461011	3/8 GR. 70 SAFETY CHAIN
7	4	101205	1-8 X 9" HEX BOLT
8	2	101256	1-8 X 3" HEX BOLT-GR.8 YELLOW ZINC
9	6	101226	1" LOCK WASHER
10	6	101217	1-8 HEX NUT
11	1	600356002	BOLT 1" X 3" GR. 5
12	5	600381018	FLAT WASHER 1"
13	1	600366032	LOCKNUT 1"
14	2	101128	3/8-16 X 2-1/2" HEX BOLT
15	2	101455	3/8-16 TOPLOCK NUT
16	1	400014	IMPLEMENT JACK

LEFT MAINFRAME WHEEL ASSEMBLY

NOTE THAT WHEEL
PLACEMENT WILL VARY
DEPENDING ON THE
COULTER SPACING USED.
SEE COULTER SPACINGS
AT THE BACK OF THE
BOOK FOR EXACT WHEEL
PLACEMENT DIMENSIONS.

REVISED: 5/17/01

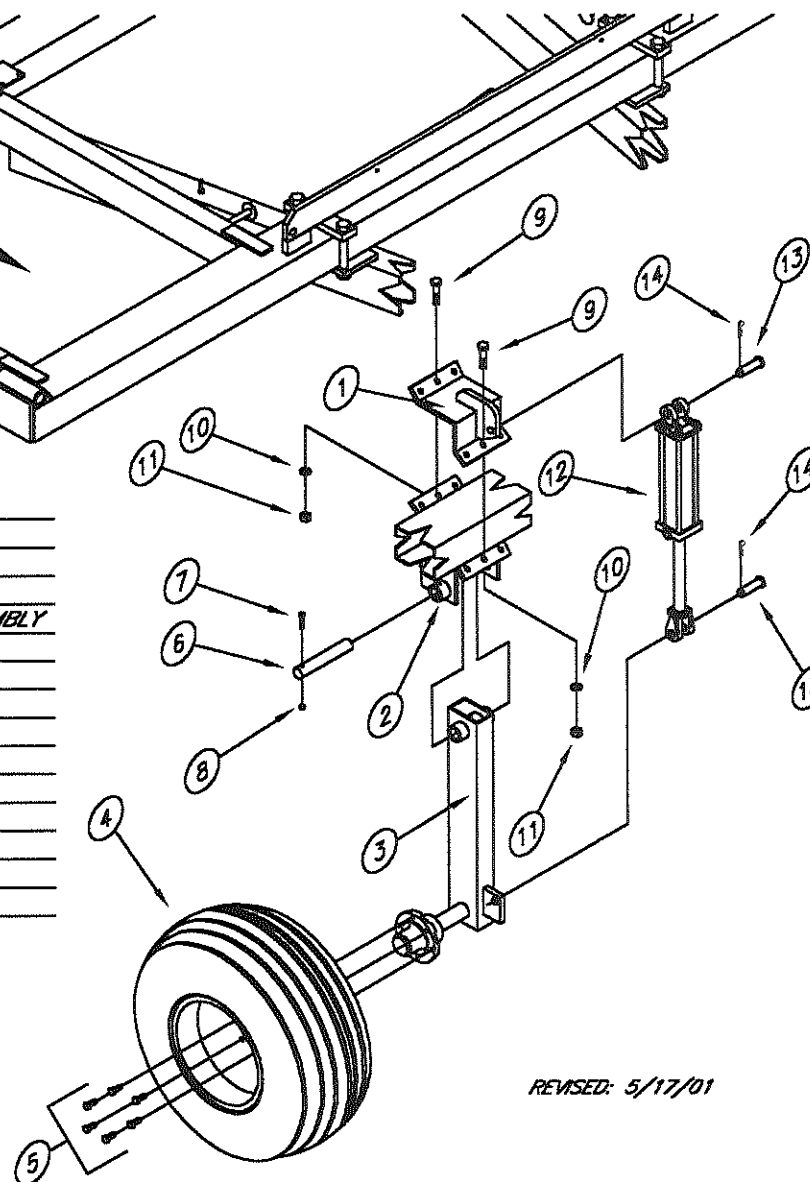


REF. #	QTY.	PART #	DESCRIPTION
1	1	801338	TOP SADDLE CLAMP
2	1	801753	LEFT LOWER SADDLE CLAMP
3	1	801341	LEFT WHEEL ARM
4	1	301194	12.5L X 15SL 8 PLY TIRE & WHEEL ASSEMBLY
5	6	301151	9/16-18 X 1-1/8" UNF LUG BOLT
6	1	802129	#1.500 X 9" HINGE PIN
7	1	101140	7/16-14 X 3" HEX BOLT
8	1	101456	7/16-14 TOPLOCK NUT
9	6	101173	3/4-10 X 3" HEX NUT
10	6	101224	3/4" LOCK WASHER
11	6	101215	3/4-10 HEX NUT
12	1	204016	3-1/2 X 10 REPHASE CYLINDER
13	2	602228	#1.00 X 3-1/4" CYLINDER PIN
14	2	101249	5/32 X 1-3/4" COTTER PIN

RIGHT MAINFRAME WHEEL ASSEMBLY

NOTE THAT WHEEL
PLACEMENT WILL VARY
DEPENDING ON THE
COULTER SPACING USED.
SEE COULTER SPACINGS
AT THE BACK OF THE
BOOK FOR EXACT WHEEL
PLACEMENT DIMENSIONS.

REF. #	QTY.	PART #	DESCRIPTION
1	1	801338	TOP SADDLE CLAMP
2	1	801754	RIGHT LOWER SADDLE CLAMP
3	1	801342	RIGHT WHEEL ARM
4	1	301194	12.5L X 15SL 8 PLY TIRE & WHEEL ASSEMBLY
5	6	301151	9/16-18 X 1-1/8" UNF LUG BOLT
6	1	602129	#1.500 X 9" HINGE PIN
7	1	101140	7/16-14 X 3" HEX BOLT
8	1	101456	7/16-14 TOPLOCK NUT
9	6	101173	3/4-10 X 3" HEX BOLT
10	6	101224	3/4" LOCK WASHER
11	6	101215	3/4-10 HEX NUT
12	1	204016	3-1/2 X 10 REPHASE CYLINDER
13	2	602228	#1.00 X 3-1/4" CYLINDER PIN
14	2	101249	5/32 X 1-3/4" COTTER PIN

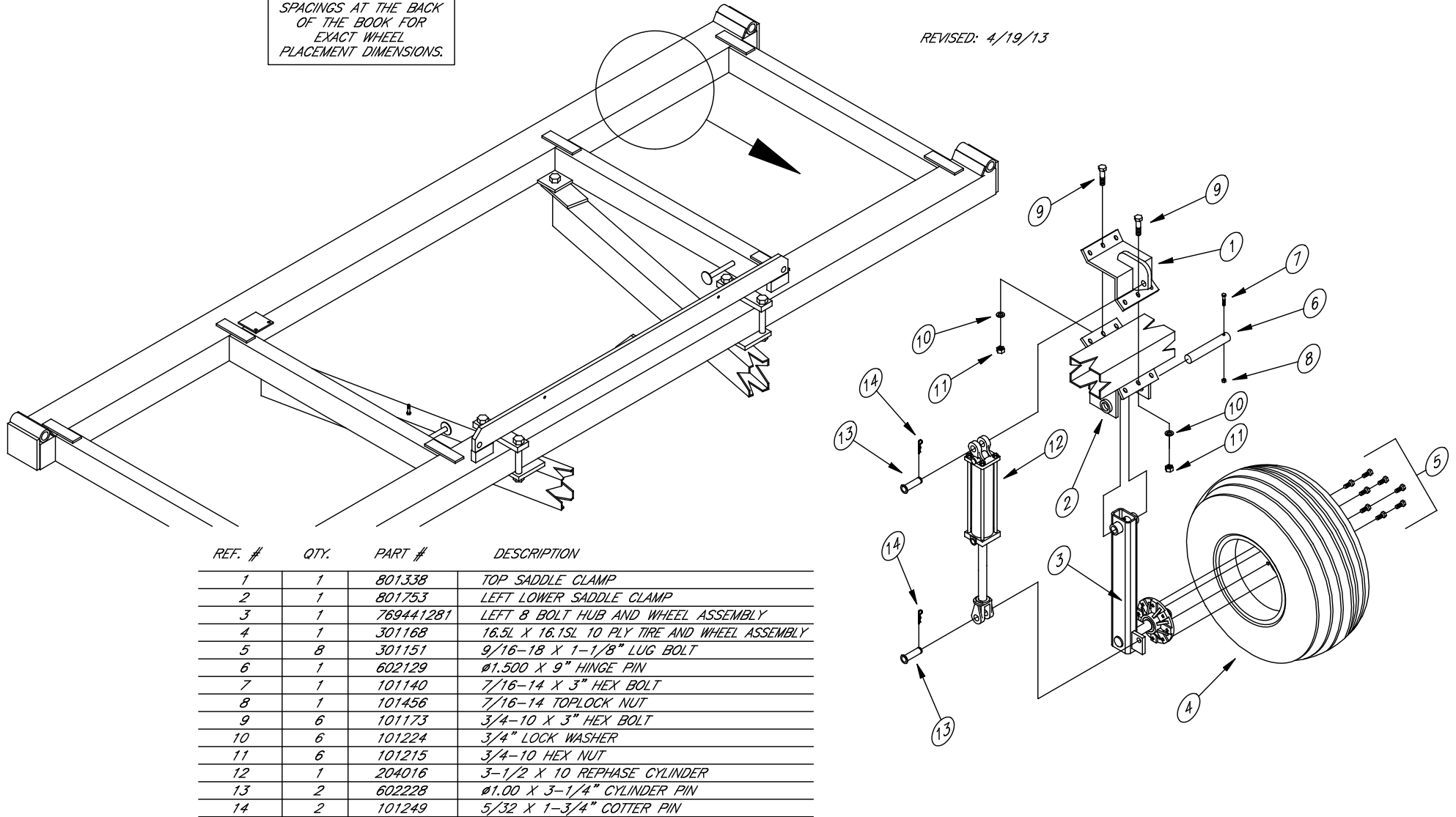


REVISED: 5/17/01

LEFT MAINFRAME WHEEL ASSEMBLY (HEAVY DUTY)

NOTE THAT WHEEL
PLACEMENT WILL VARY
DEPENDING ON THE
COULTER SPACING
USED. SEE COULTER
SPACINGS AT THE BACK
OF THE BOOK FOR
EXACT WHEEL
PLACEMENT DIMENSIONS.

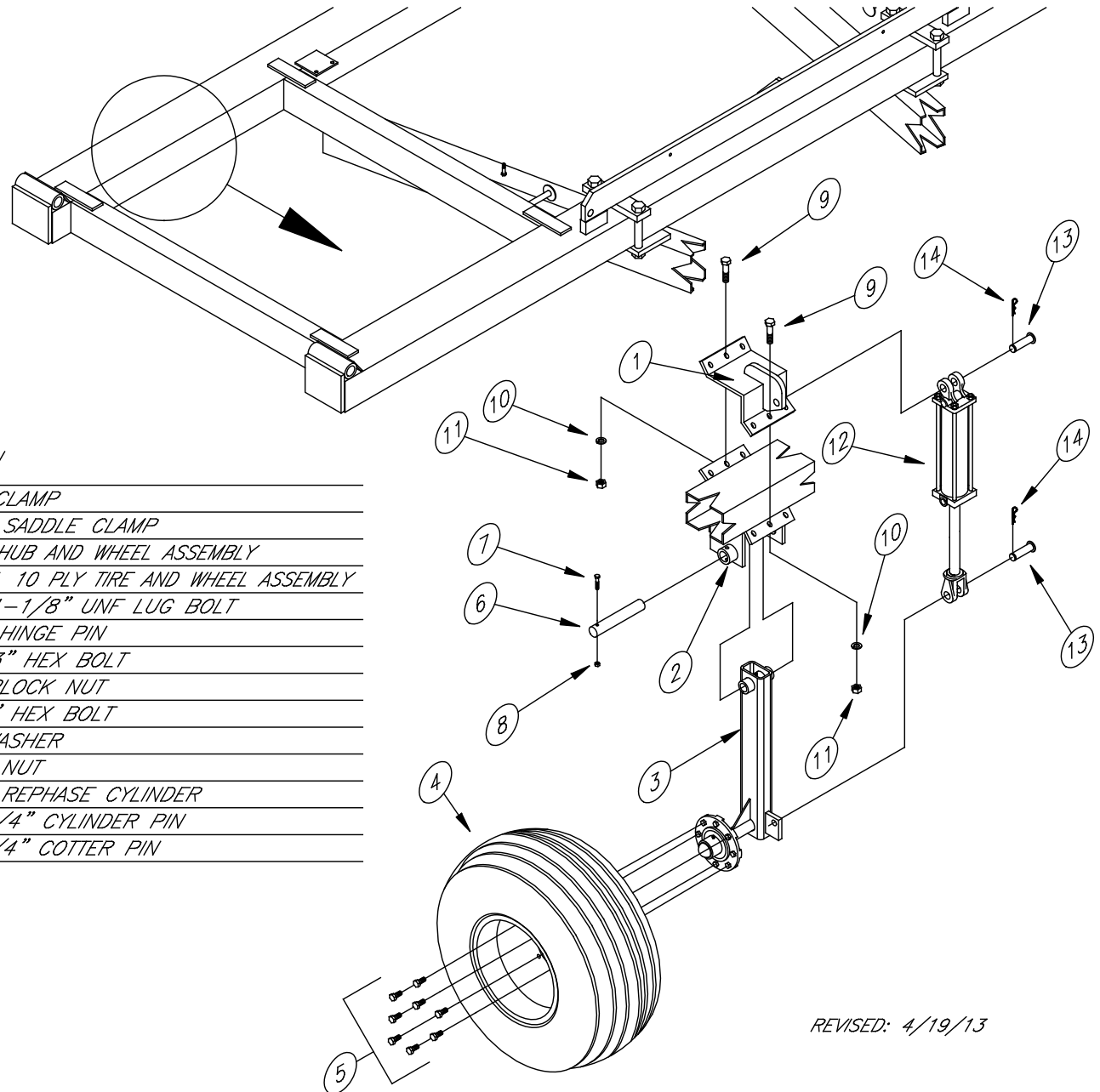
REVISED: 4/19/13



REF. #	QTY.	PART #	DESCRIPTION
1	1	801338	TOP SADDLE CLAMP
2	1	801753	LEFT LOWER SADDLE CLAMP
3	1	769441281	LEFT 8 BOLT HUB AND WHEEL ASSEMBLY
4	1	301168	16.5L X 16.1SL 10 PLY TIRE AND WHEEL ASSEMBLY
5	8	301151	9/16-18 X 1-1/8" LUG BOLT
6	1	602129	Ø1.500 X 9" HINGE PIN
7	1	101140	7/16-14 X 3" HEX BOLT
8	1	101456	7/16-14 TOPLOCK NUT
9	6	101173	3/4-10 X 3" HEX BOLT
10	6	101224	3/4" LOCK WASHER
11	6	101215	3/4-10 HEX NUT
12	1	204016	3-1/2 X 10 REPHASE CYLINDER
13	2	602228	Ø1.00 X 3-1/4" CYLINDER PIN
14	2	101249	5/32 X 1-3/4" COTTER PIN

RIGHT MAINFRAME WHEEL ASSEMBLY (HEAVY DUTY)

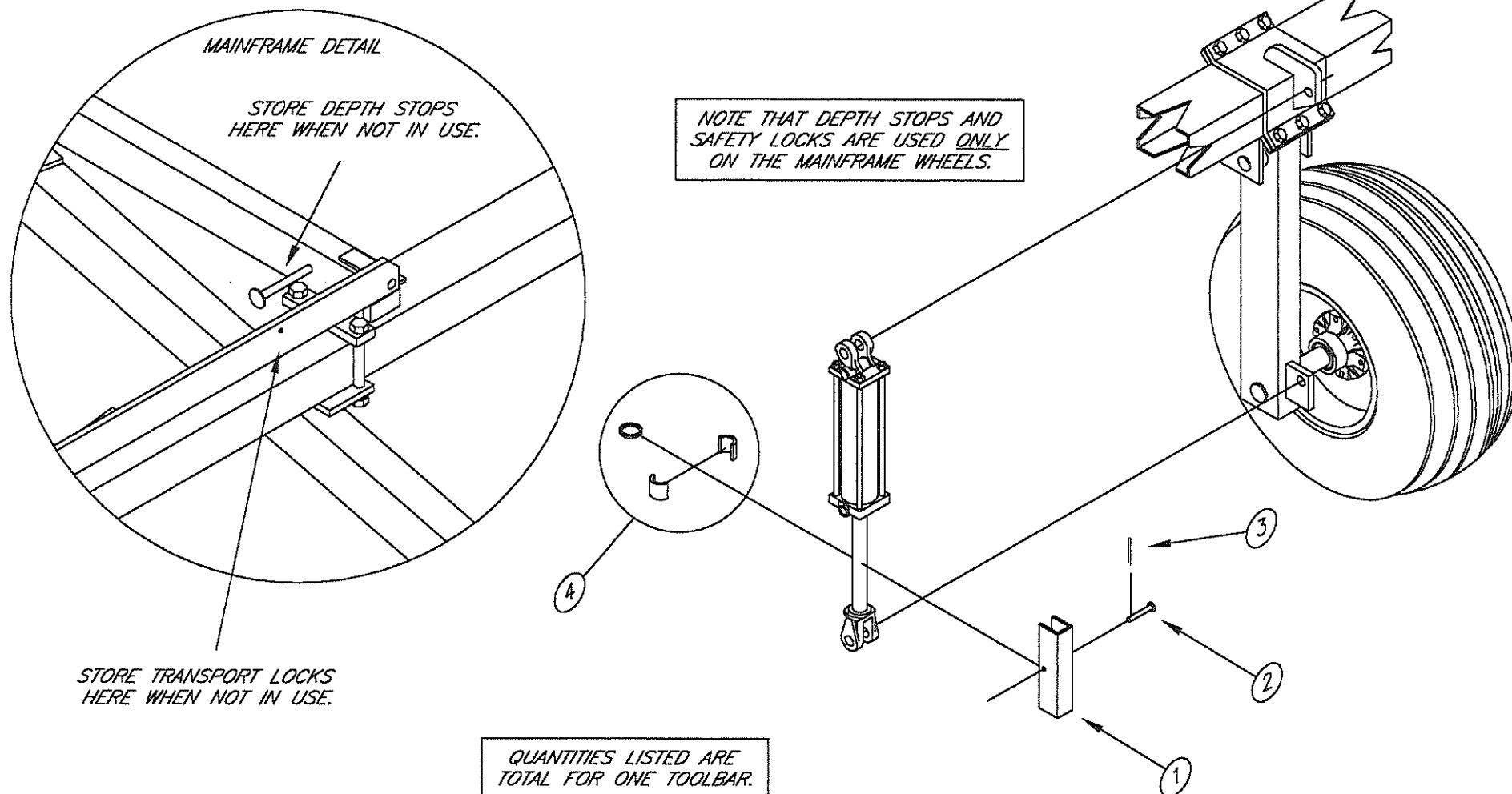
NOTE THAT WHEEL
PLACEMENT WILL VARY
DEPENDING ON THE
COULTER SPACING
USED. SEE COULTER
SPACINGS AT THE BACK
OF THE BOOK FOR
EXACT WHEEL
PLACEMENT DIMENSIONS.



REF. #	QTY.	PART #	DESCRIPTION
1	1	801338	TOP SADDLE CLAMP
2	1	801754	RIGHT LOWER SADDLE CLAMP
3	1	769441282	RIGHT 8 BOLT HUB AND WHEEL ASSEMBLY
4	1	301168	16.5L X 16.1SL 10 PLY TIRE AND WHEEL ASSEMBLY
5	8	301151	9/16-18 X 1-1/8" UNF LUG BOLT
6	1	602129	Ø1.500 X 9" HINGE PIN
7	1	101140	7/16-14 X 3" HEX BOLT
8	1	101456	7/16-14 TOPLOCK NUT
9	6	101173	3/4-10 X 3" HEX BOLT
10	6	101224	3/4" LOCK WASHER
11	6	101215	3/4-10 HEX NUT
12	1	204016	3-1/2 X 10 REPHASE CYLINDER
13	2	602228	Ø1.00 X 3-1/4" CYLINDER PIN
14	2	101249	5/32 X 1-3/4" COTTER PIN

REVISED: 4/19/13

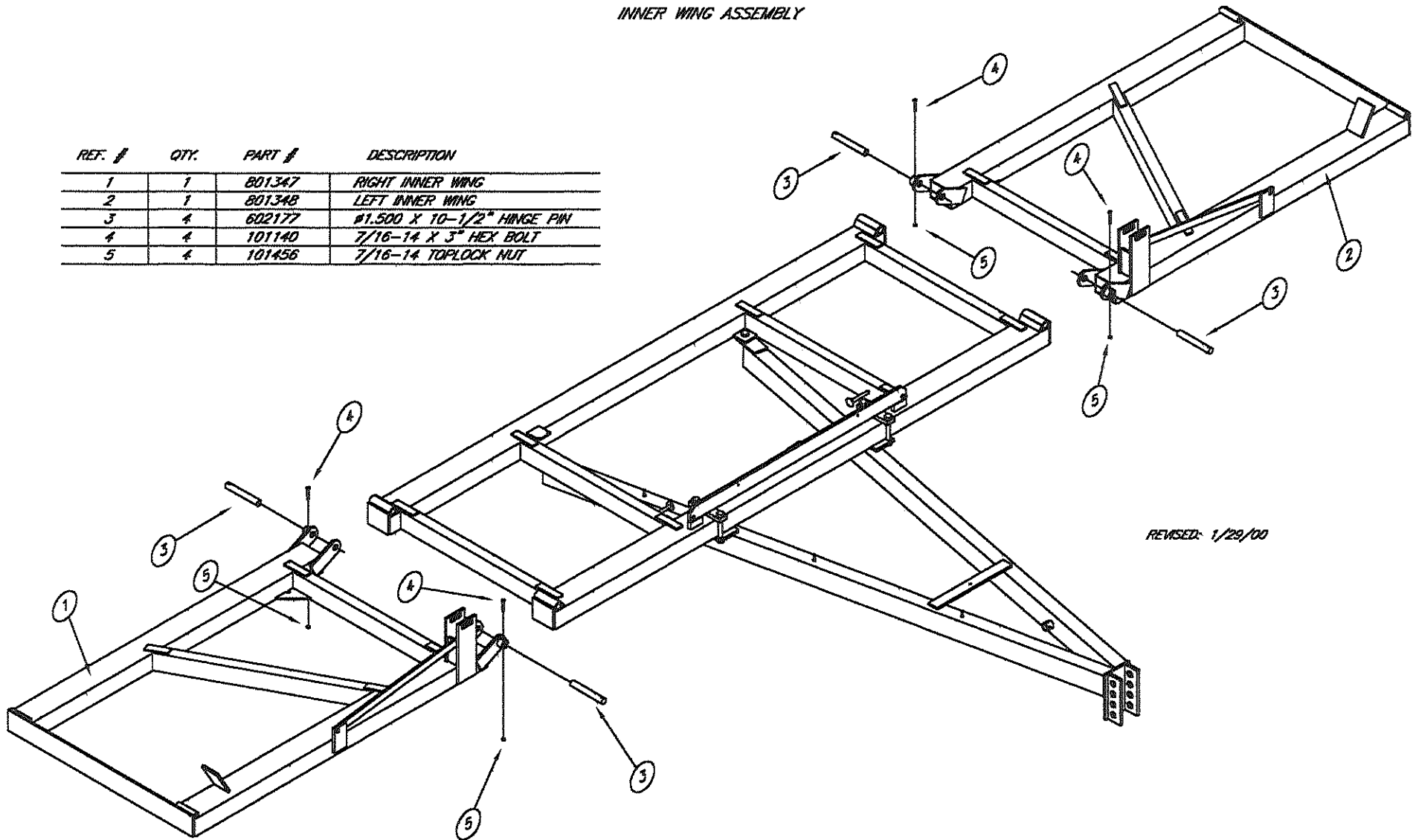
DEPTH STOP AND TRANSPORT LOCK USE AND STORAGE



REF #	QTY.	PART #	DESCRIPTION
1	2	400083	8" STROKE CYLINDER SAFETY LOCK
2	2	101257	3/8 X 3" LATCH PIN
3	2	101258	3/32 X 1-1/2" HAIR PIN
4	2	450061	CYLINDER DEPTH STOP (PKG OF 4)

INNER WING ASSEMBLY

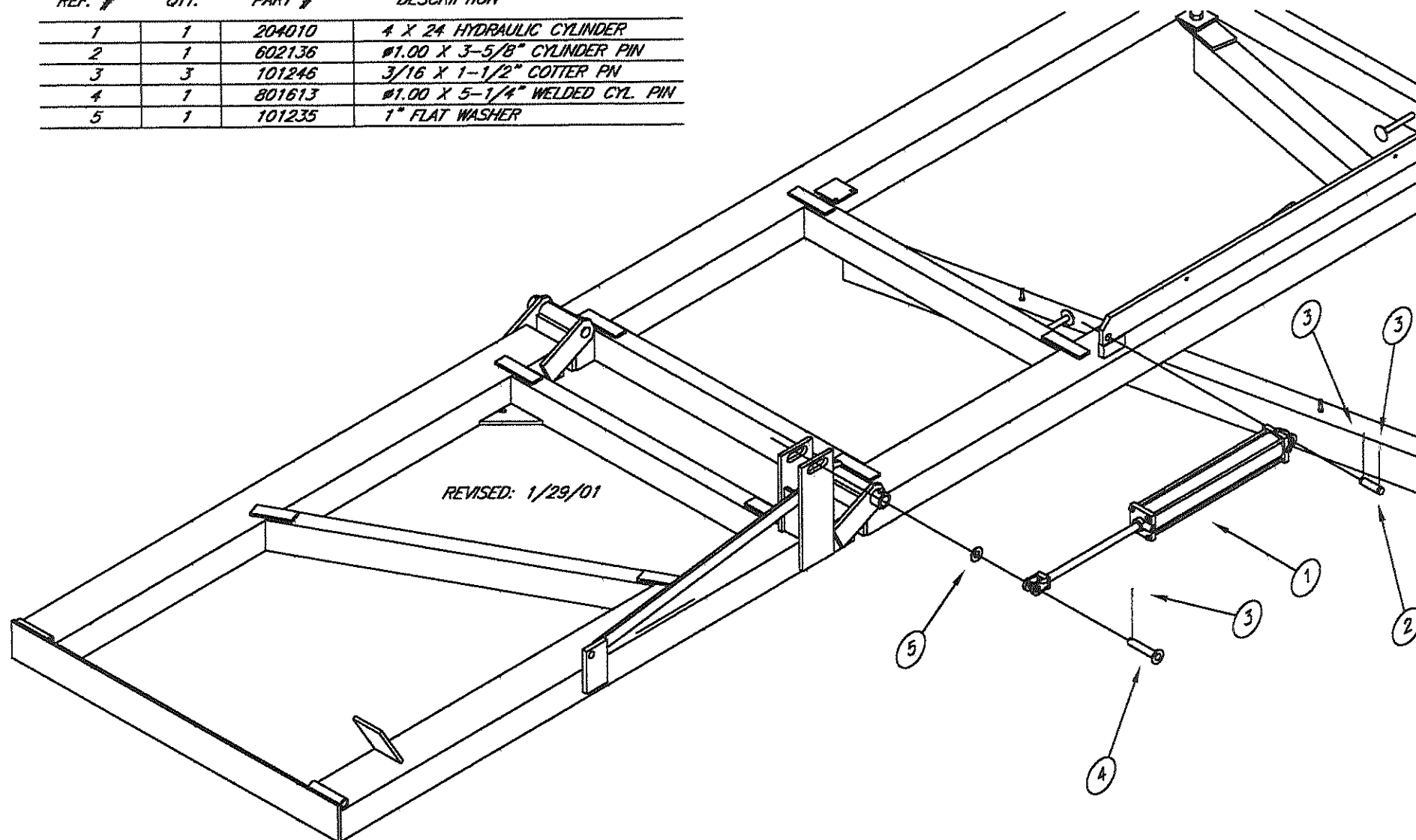
REF. #	QTY.	PART #	DESCRIPTION
1	1	801347	RIGHT INNER WING
2	1	801348	LEFT INNER WING
3	4	602177	#1.500 X 10-1/2" HINGE PIN
4	4	101140	7/16-14 X 3" HEX BOLT
5	4	101456	7/16-14 TOPLOCK NUT



REVISED: 1/29/00

RIGHT WING-FOLD CYLINDER INSTALLATION

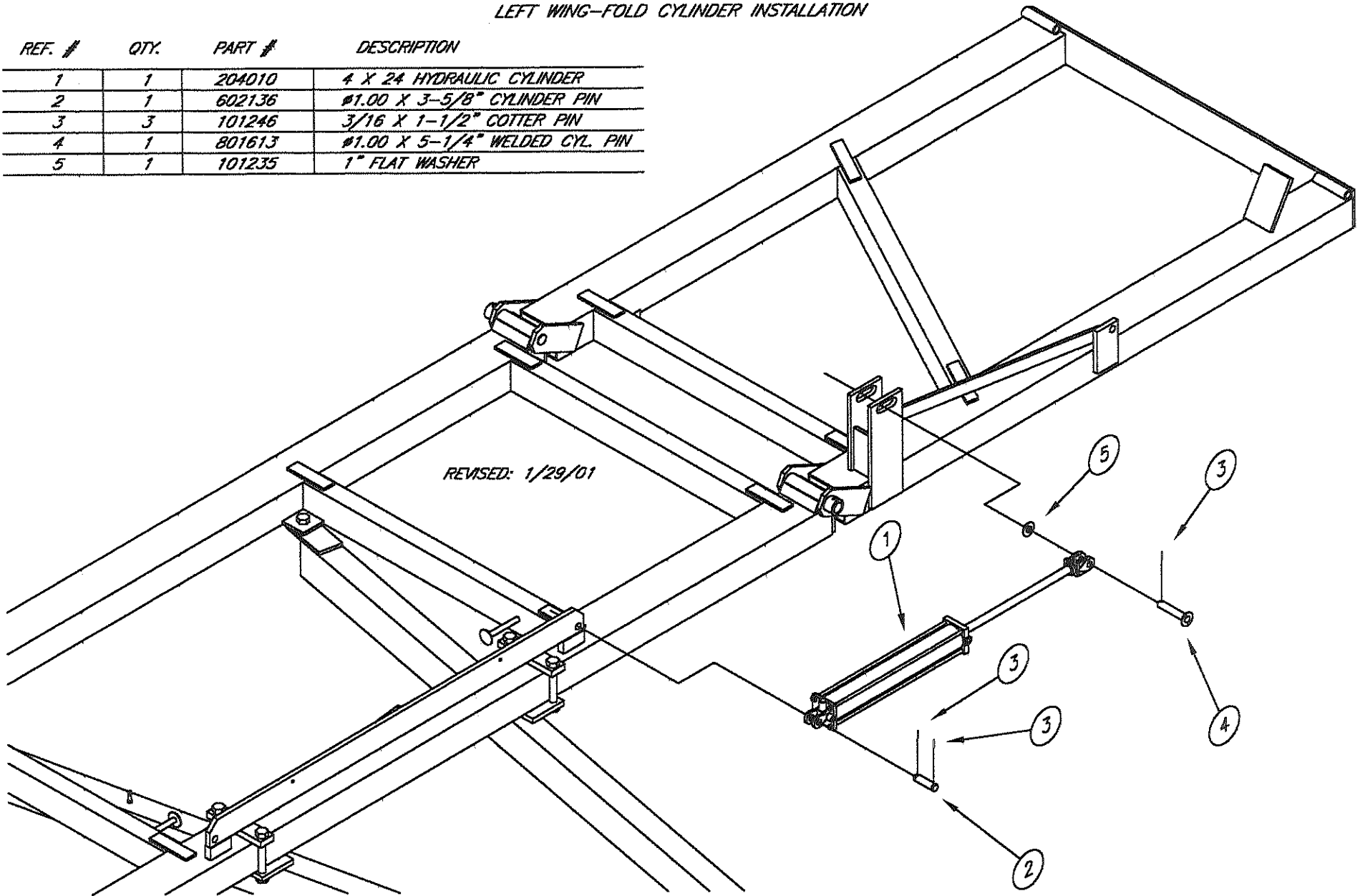
REF. #	QTY.	PART #	DESCRIPTION
1	1	204010	4 X 24 HYDRAULIC CYLINDER
2	1	602136	#1.00 X 3-5/8" CYLINDER PIN
3	3	101246	3/16 X 1-1/2" COTTER PIN
4	1	801613	#1.00 X 5-1/4" WELDED CYL. PIN
5	1	101235	1" FLAT WASHER



LEFT WING-FOLD CYLINDER INSTALLATION

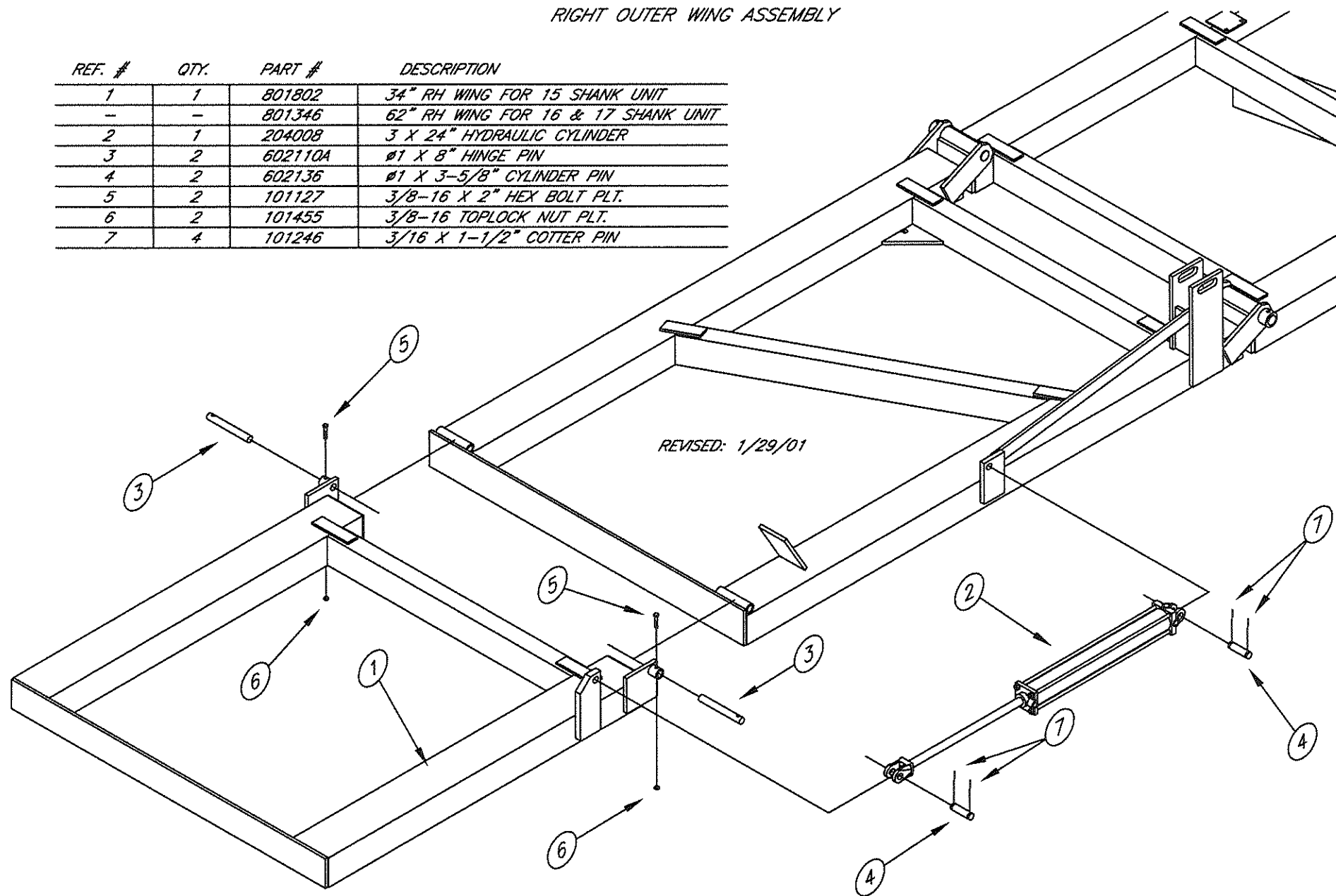
REF. #	QTY.	PART #	DESCRIPTION
1	1	204010	4 X 24 HYDRAULIC CYLINDER
2	1	602136	#1.00 X 3-5/8" CYLINDER PIN
3	3	101246	3/16 X 1-1/2" COTTER PIN
4	1	801613	#1.00 X 5-1/4" WELDED CYL. PIN
5	1	101235	1" FLAT WASHER

REVISED: 1/29/01

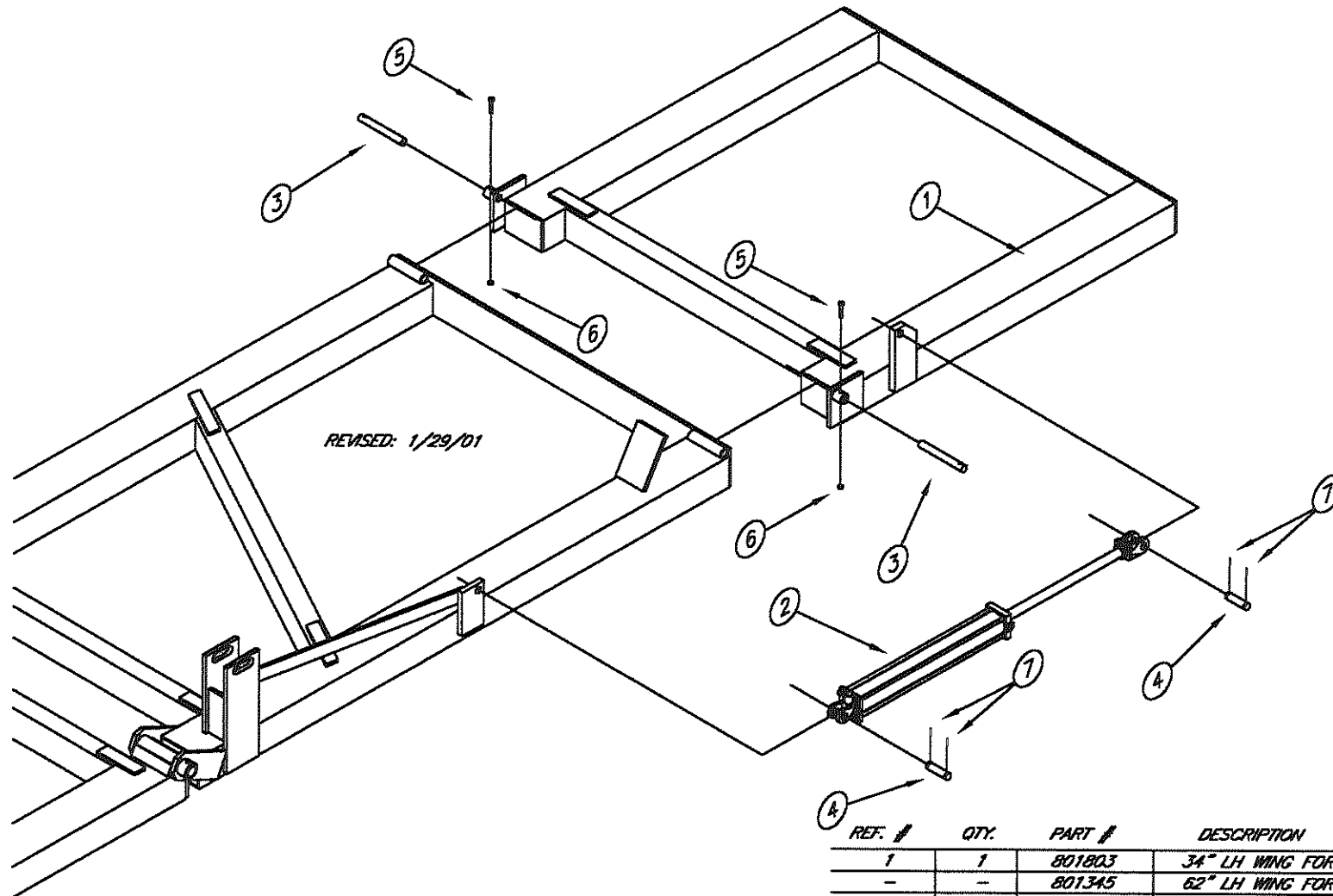


RIGHT OUTER WING ASSEMBLY

REF. #	QTY.	PART #	DESCRIPTION
1	1	801802	34" RH WING FOR 15 SHANK UNIT
-	-	801346	62" RH WING FOR 16 & 17 SHANK UNIT
2	1	204008	3 X 24" HYDRAULIC CYLINDER
3	2	602110A	Ø1 X 8" HINGE PIN
4	2	602136	Ø1 X 3-5/8" CYLINDER PIN
5	2	101127	3/8-16 X 2" HEX BOLT PLT.
6	2	101455	3/8-16 TOPLOCK NUT PLT.
7	4	101246	3/16 X 1-1/2" COTTER PIN



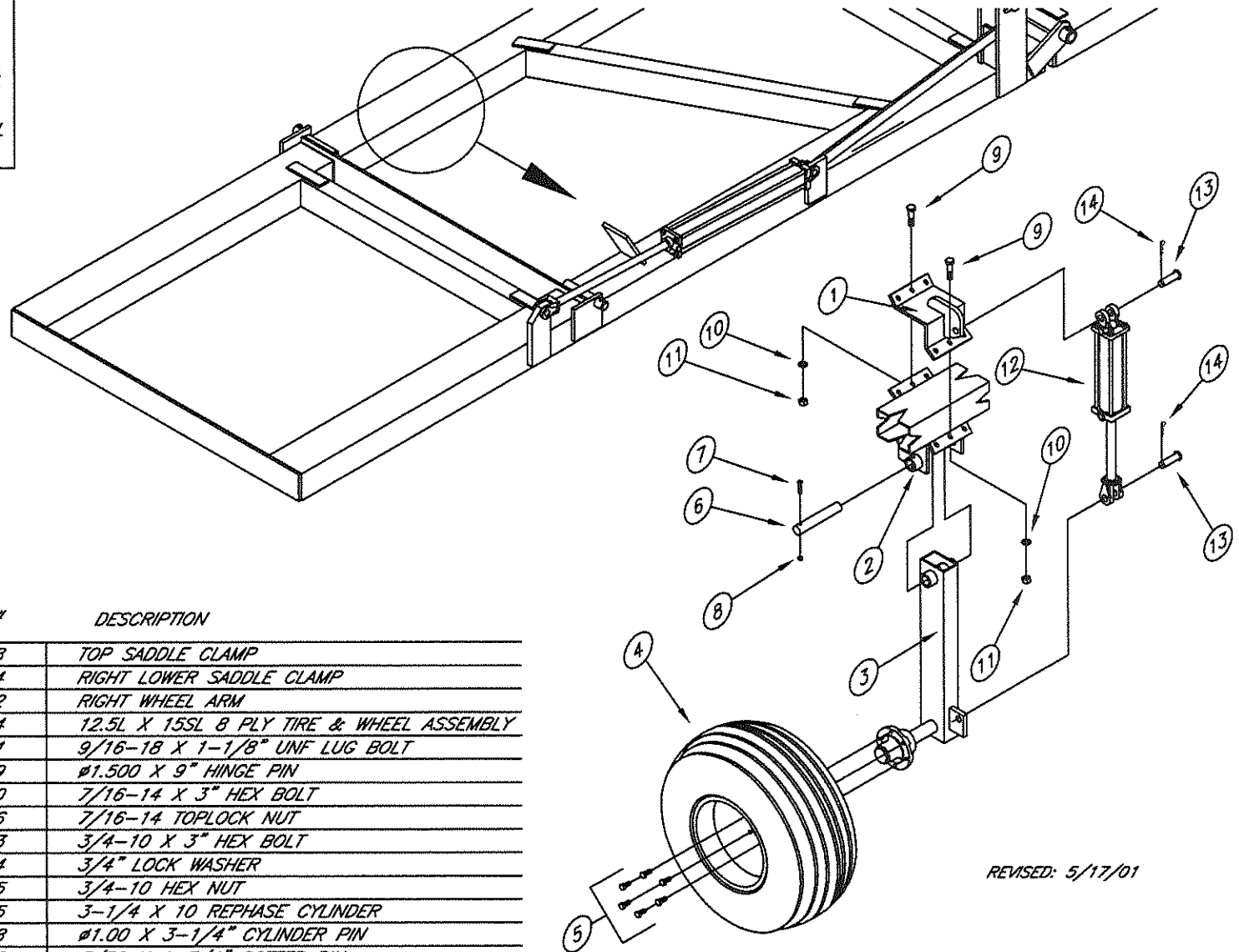
LEFT OUTER WING ASSEMBLY



REF. #	QTY.	PART #	DESCRIPTION
1	1	801803	34" LH WING FOR 15 SHANK UNIT
-	-	801345	62" LH WING FOR 16 & 17 SHANK UNIT
2	1	204008	3 X 24" HYDRAULIC CYLINDER
3	2	602110A	#1 X 8" HINGE PIN
4	2	602136	#1 X 3-5/8" CYLINDER PIN
5	2	101127	3/8-16 X 2" HEX BOLT PLT.
6	2	101455	3/8-16 TOPLOCK NUT PLT.
7	4	101246	3/16 X 1-1/2" COTTER PIN

RIGHT WING WHEEL ASSEMBLY

NOTE THAT WHEEL
PLACEMENT WILL VARY
DEPENDING ON THE
COULTER SPACING USED.
SEE COULTER SPACINGS
AT THE BACK OF THE
BOOK FOR EXACT WHEEL
PLACEMENT DIMENSIONS.



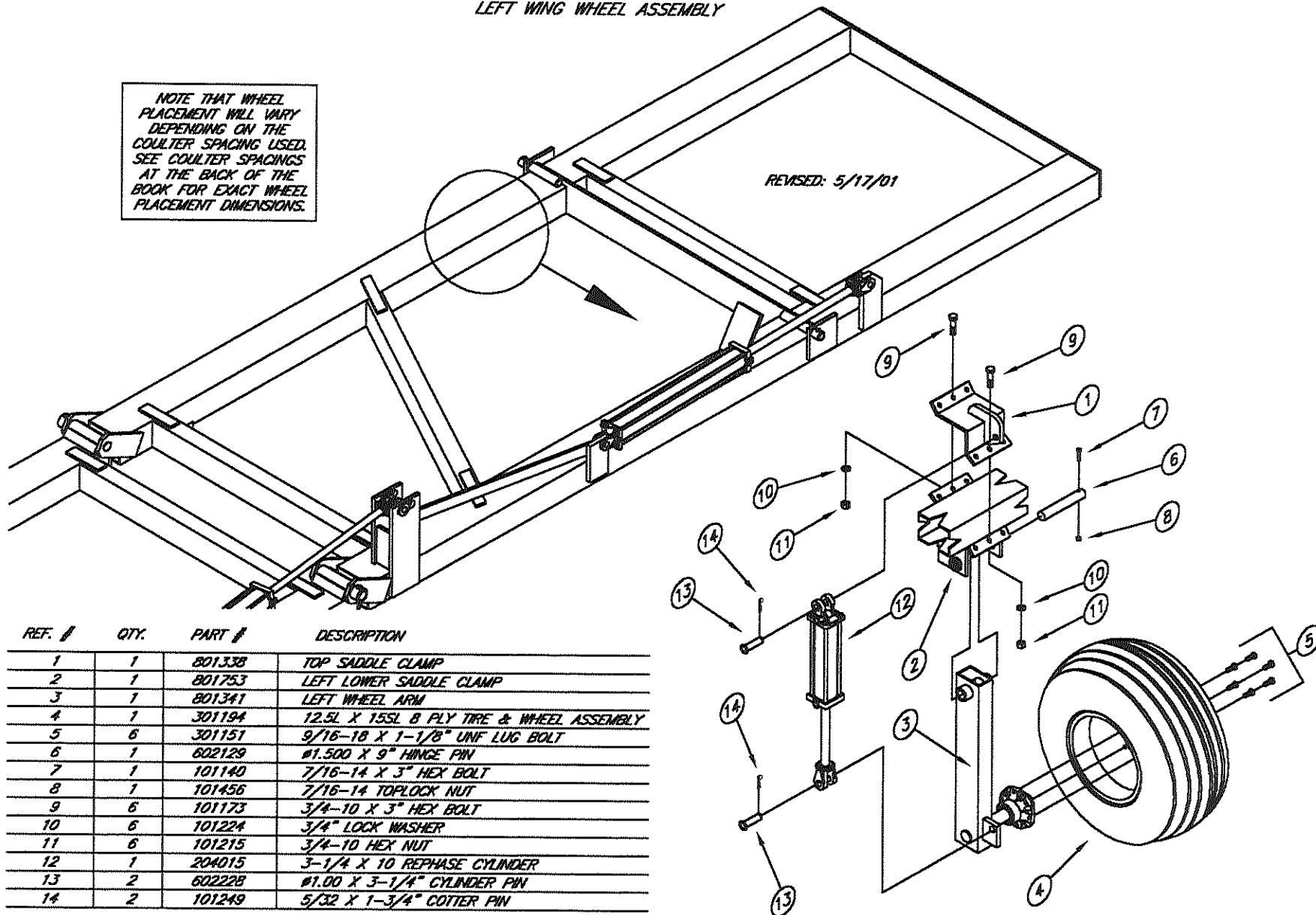
REF. #	QTY.	PART #	DESCRIPTION
1	1	801338	TOP SADDLE CLAMP
2	1	801754	RIGHT LOWER SADDLE CLAMP
3	1	801342	RIGHT WHEEL ARM
4	1	301194	12.5L X 15SL 8 PLY TIRE & WHEEL ASSEMBLY
5	6	301151	9/16-18 X 1-1/8" UNF LUG BOLT
6	1	602129	#1.500 X 9" HINGE PIN
7	1	101140	7/16-14 X 3" HEX BOLT
8	1	101456	7/16-14 TOPLOCK NUT
9	6	101173	3/4-10 X 3" HEX BOLT
10	6	101224	3/4" LOCK WASHER
11	6	101215	3/4-10 HEX NUT
12	1	204015	3-1/4 X 10 REPHASE CYLINDER
13	2	602228	#1.00 X 3-1/4" CYLINDER PIN
14	2	101249	5/32 X 1-3/4" COTTER PIN

REVISED: 5/17/01

LEFT WING WHEEL ASSEMBLY

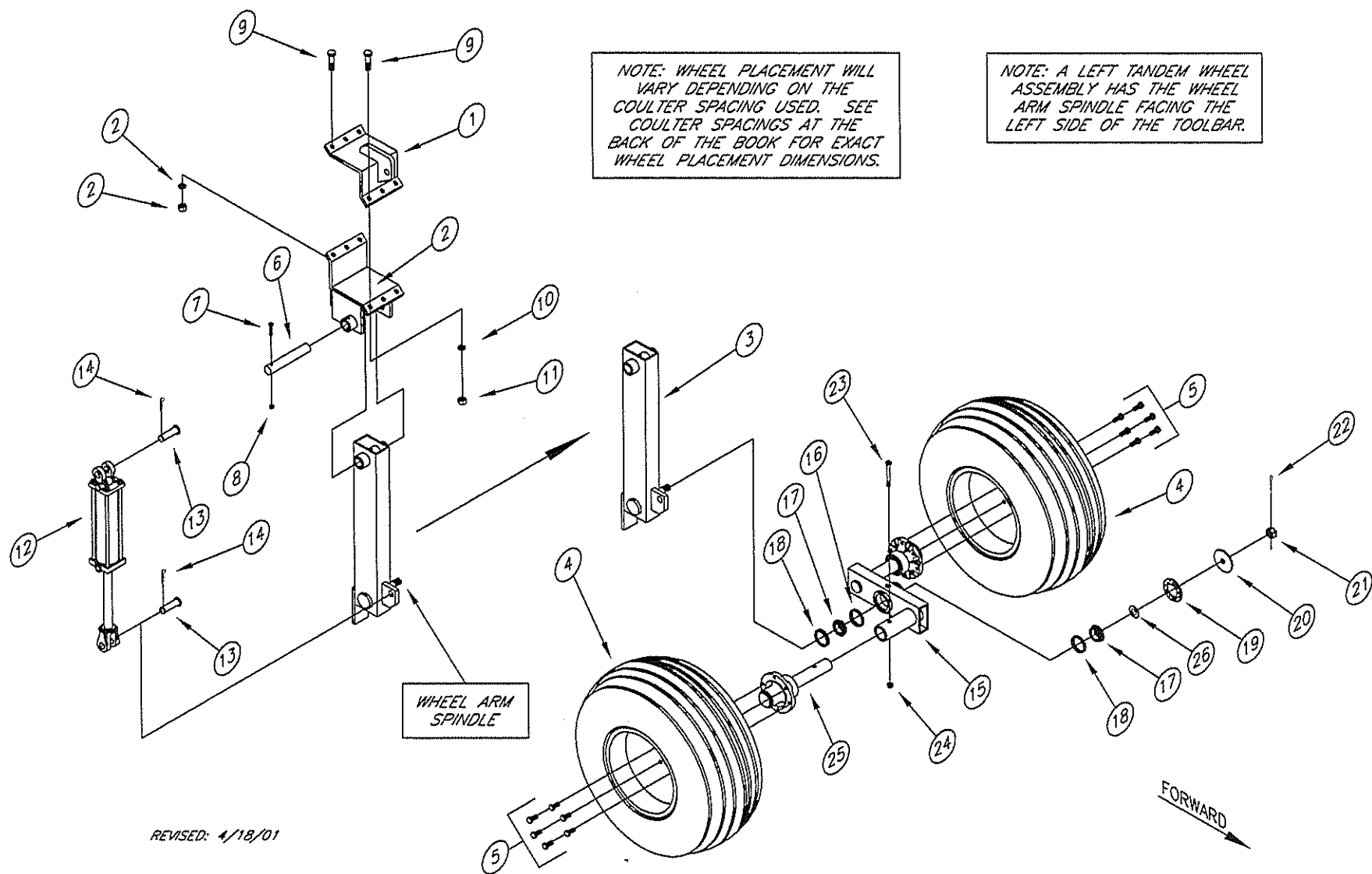
NOTE THAT WHEEL
PLACEMENT WILL VARY
DEPENDING ON THE
COUNTER SPACING USED.
SEE COUNTER SPACINGS
AT THE BACK OF THE
BOOK FOR EXACT WHEEL
PLACEMENT DIMENSIONS.

REVISED: 5/17/01



REF. #	QTY.	PART #	DESCRIPTION
1	1	801338	TOP SADDLE CLAMP
2	1	801753	LEFT LOWER SADDLE CLAMP
3	1	801341	LEFT WHEEL ARM
4	1	301194	12.5L X 15SL 8 PLY TIRE & WHEEL ASSEMBLY
5	6	301151	9/16-18 X 1-1/8" UNF LUG BOLT
6	1	602129	#1.500 X 9" HINGE PIN
7	1	101140	7/16-14 X 3" HEX BOLT
8	1	101456	7/16-14 TOPLOCK NUT
9	6	101173	3/4-10 X 3" HEX BOLT
10	6	101224	3/4" LOCK WASHER
11	6	101215	3/4-10 HEX NUT
12	1	204015	3-1/4 X 10 REPHASE CYLINDER
13	2	602228	#1.00 X 3-1/4" CYLINDER PIN
14	2	101249	5/32 X 1-3/4" COTTER PIN

OPTIONAL LEFT TANDEM WHEEL ASSEMBLY



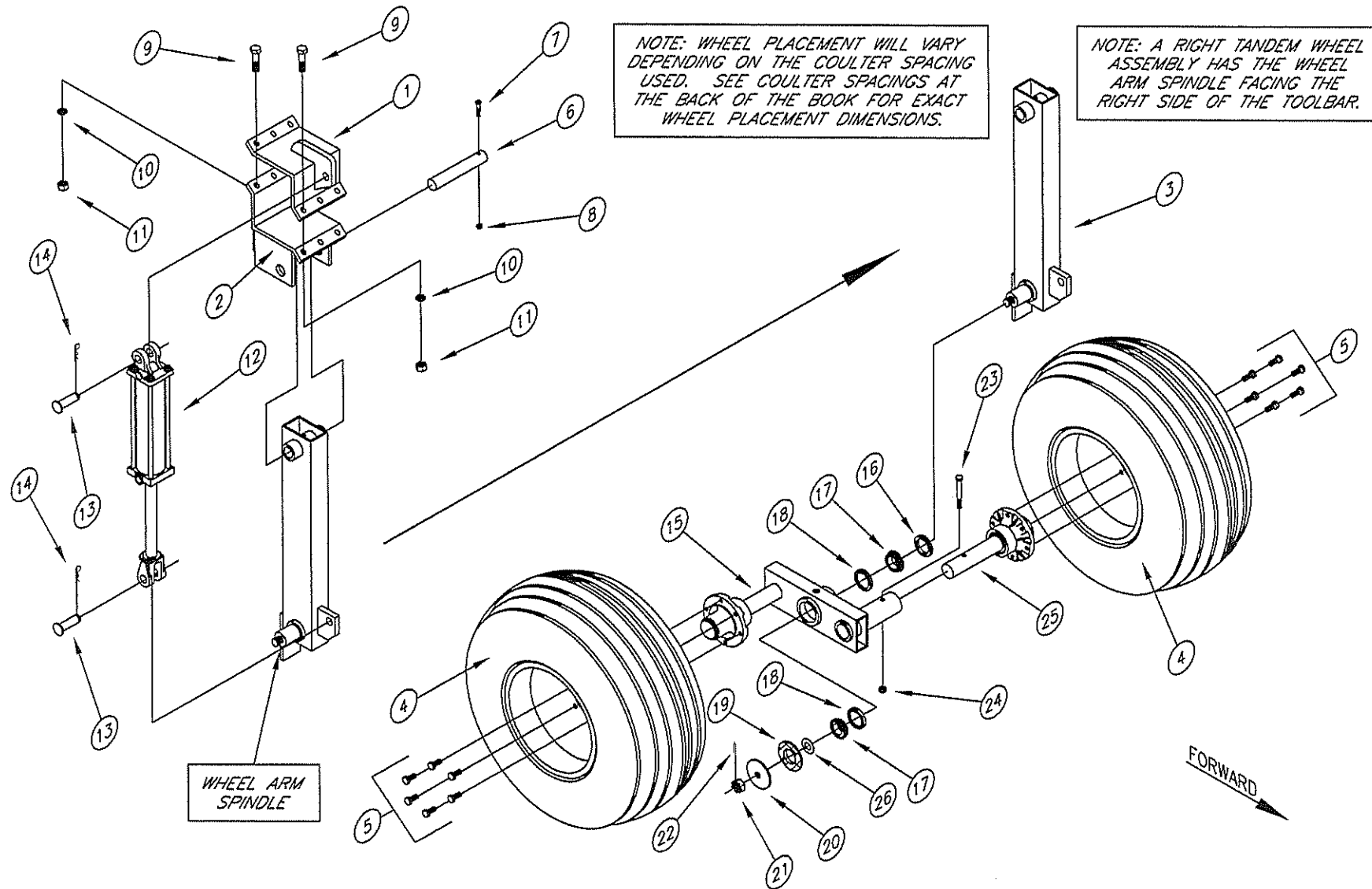
REVISED: 4/18/01

OPTIONAL LEFT TANDEM WHEEL ASSEMBLY (EXPLODED)

<i>REF. #</i>	<i>QTY.</i>	<i>PART #</i>	<i>DESCRIPTION</i>	<i>REVISED: 7/09/01</i>
<i>1</i>	<i>1</i>	<i>801338</i>	<i>TOP SADDLE CLAMP (WHEEL) WELDMENT</i>	
<i>2</i>	<i>1</i>	<i>801753</i>	<i>LEFT LOWER SADDLE CLAMP WELDMENT</i>	
<i>3</i>	<i>1</i>	<i>801349</i>	<i>TANDEM WHEEL ARM WELDMENT</i>	
<i>4</i>	<i>2</i>	<i>301194</i>	<i>12.5L X 15SL 8 PLY TIRE & WHEEL ASSEM.</i>	
<i>5</i>	<i>12</i>	<i>301151</i>	<i>9/16-18 X 1-1/8" UNF LUG BOLT</i>	
<i>6</i>	<i>1</i>	<i>602129</i>	<i>Ø1.500 X 9-3/8" PIN</i>	
<i>7</i>	<i>1</i>	<i>101140</i>	<i>7/16-14 X 3" HEX BOLT</i>	
<i>8</i>	<i>1</i>	<i>101456</i>	<i>7/16-14 TOPLOCK NUT</i>	
<i>9</i>	<i>6</i>	<i>101173</i>	<i>3/4-10 X 3" HEX BOLT</i>	
<i>10</i>	<i>6</i>	<i>101224</i>	<i>3/4" LOCK WASHER</i>	
<i>11</i>	<i>6</i>	<i>101215</i>	<i>3/4-10 HEX NUT</i>	
<i>12*</i>	<i>1</i>	<i>204016</i>	<i>3-1/2 X 10 REPHASE CYLINDER</i>	
<i>13</i>	<i>2</i>	<i>602228</i>	<i>Ø1.00 X 3-1/4" PLATED CYLINDER PIN</i>	
<i>14</i>	<i>2</i>	<i>101249</i>	<i>5/32 X 1-3/4" COTTER PIN</i>	
<i>15</i>	<i>1</i>	<i>801757</i>	<i>LEFT WALKING AXLE WELDMENT</i>	
<i>16</i>	<i>1</i>	<i>301154</i>	<i>OIL SEAL - TCM 203062</i>	
<i>17</i>	<i>2</i>	<i>301129</i>	<i>BEARING CONE - LM501349</i>	
<i>18</i>	<i>2</i>	<i>301135</i>	<i>BEARING CUP - LM501310</i>	
<i>19</i>	<i>1</i>	<i>301216</i>	<i>4.000 O.D. X 1.031 I.D. FELT PAD</i>	
<i>20</i>	<i>1</i>	<i>301217</i>	<i>4.000 O.D. X 1.031 I.D. X 3/16" WASHER</i>	
<i>21</i>	<i>1</i>	<i>301218</i>	<i>1-8 CASTELLATED NUT</i>	
<i>22</i>	<i>1</i>	<i>101451</i>	<i>3/16 X 2-1/2" COTTER PIN</i>	
<i>23</i>	<i>1</i>	<i>101152</i>	<i>1/2-13 X 3-1/2" HEX BOLT</i>	
<i>24</i>	<i>1</i>	<i>101457</i>	<i>1/2-13 TOPLOCK NUT</i>	
<i>25</i>	<i>1</i>	<i>301120A</i>	<i>6 BOLT HUB AND SPINDLE (FRONT TANDEM)</i>	
<i>26</i>	<i>1</i>	<i>101226</i>	<i>1" FLAT WASHER - PLT.</i>	

** BE SURE TO USE THE 3-1/2" CYLINDERS ON THE MAINFRAME WHEEL ASSEMBLIES
AND THE 3-1/4" CYLINDERS ON THE WING WHEEL ASSEMBLIES.*

OPTIONAL RIGHT TANDEM WHEEL ASSEMBLY

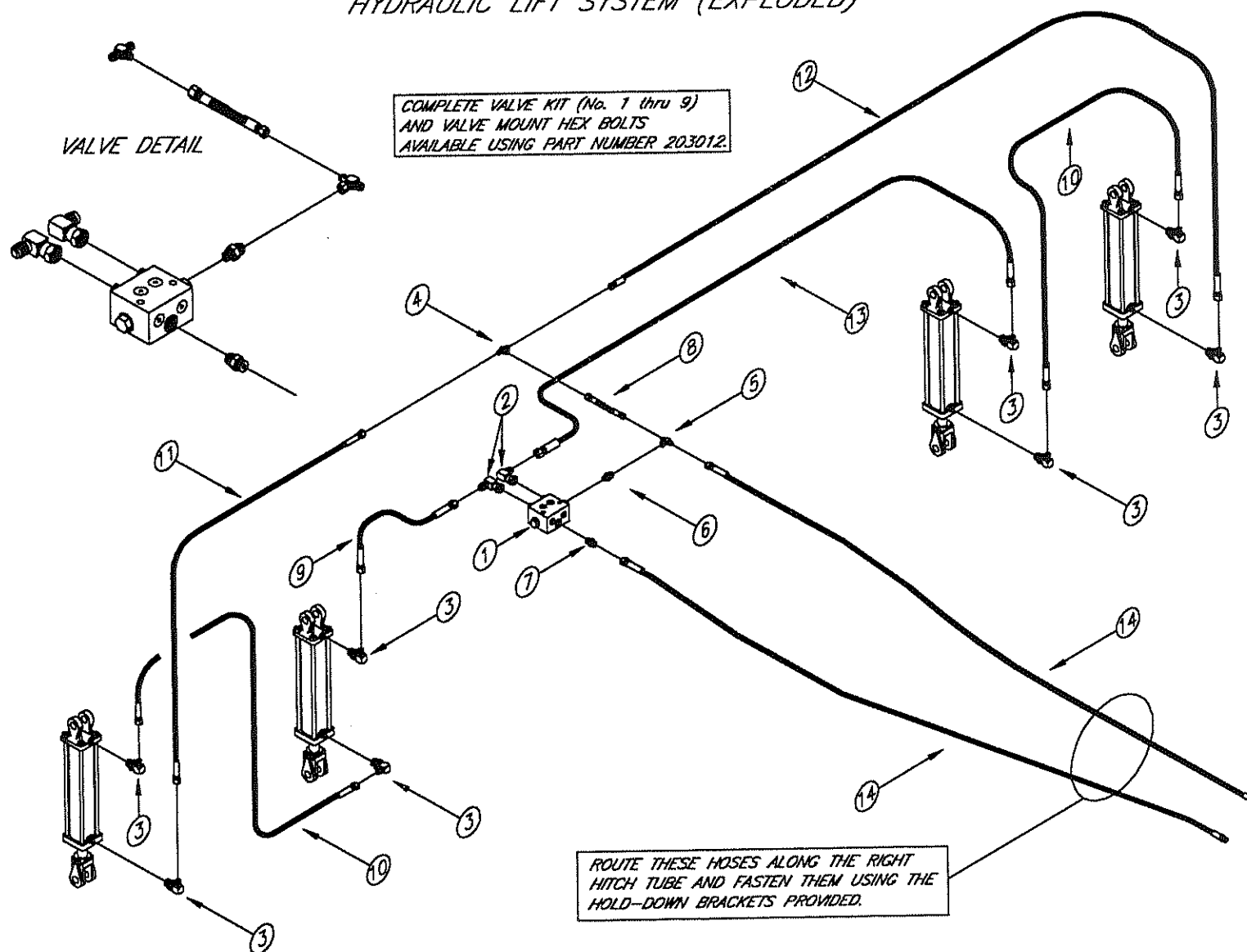


OPTIONAL RIGHT TANDEM WHEEL ASSEMBLY (EXPLODED)

<i>REF. #</i>	<i>QTY.</i>	<i>PART #</i>	<i>DESCRIPTION</i>	<i>REVISED: 7/09/01</i>
1	1	801338	TOP SADDLE CLAMP (WHEEL) WELDMENT	
2	1	801754	RIGHT LOWER SADDLE CLAMP WELDMENT	
3	1	801350	TANDEM WHEEL ARM WELDMENT	
4	2	301194	12.5L X 15SL 8 PLY TIRE & WHEEL ASSEM.	
5	12	301151	9/16-18 X 1-1/8" UNF LUG BOLT	
6	1	602129	Ø1.500 X 9-3/8" PIN	
7	1	101140	7/16-14 X 3" HEX BOLT	
8	1	101456	7/16-14 TOPLOCK NUT	
9	6	101173	3/4-10 X 3" HEX BOLT	
10	6	101224	3/4" LOCK WASHER	
11	6	101215	3/4-10 HEX NUT	
12*	1	204016	3-1/2 X 10 REPHASE CYLINDER	
13	2	602228	Ø1.00 X 3-1/4" PLATED CYLINDER PIN	
14	2	101249	5/32 X 1-3/4" COTTER PIN	
15	1	801758	RIGHT WALKING AXLE WELDMENT	
16	1	301154	OIL SEAL - TCM 203062	
17	2	301129	BEARING CONE - LM501349	
18	2	301135	BEARING CUP - LM501310	
19	1	301216	4.000 O.D. X 1.031 I.D. FELT PAD	
20	1	301217	4.000 O.D. X 1.031 I.D. X 3/16" WASHER	
21	1	301218	1-8 CASTELLATED NUT	
22	1	101451	3/16 X 2-1/2" COTTER PIN	
23	1	101152	1/2-13 X 3-1/2" HEX BOLT	
24	1	101457	1/2-13 TOPLOCK NUT	
25	1	301120A	6 BOLT HUB AND SPINDLE (FRONT TANDEM)	
26	1	101226	1" FLAT WASHER - PLT	

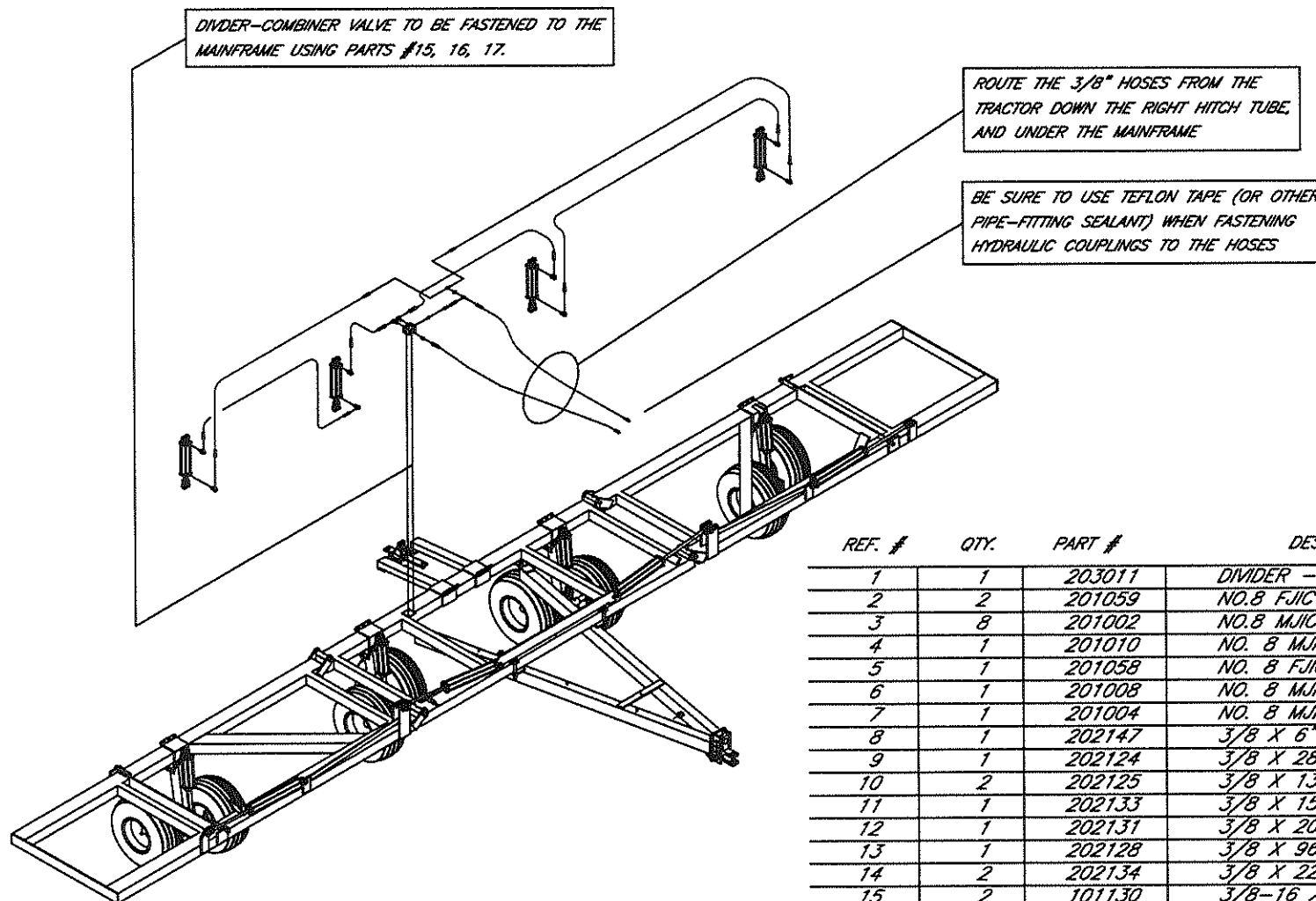
* BE SURE TO USE THE 3-1/2" CYLINDERS ON THE MAINFRAME WHEEL ASSEMBLIES
AND THE 3-1/4" CYLINDERS ON THE WING WHEEL ASSEMBLIES.

HYDRAULIC LIFT SYSTEM (EXPLODED)



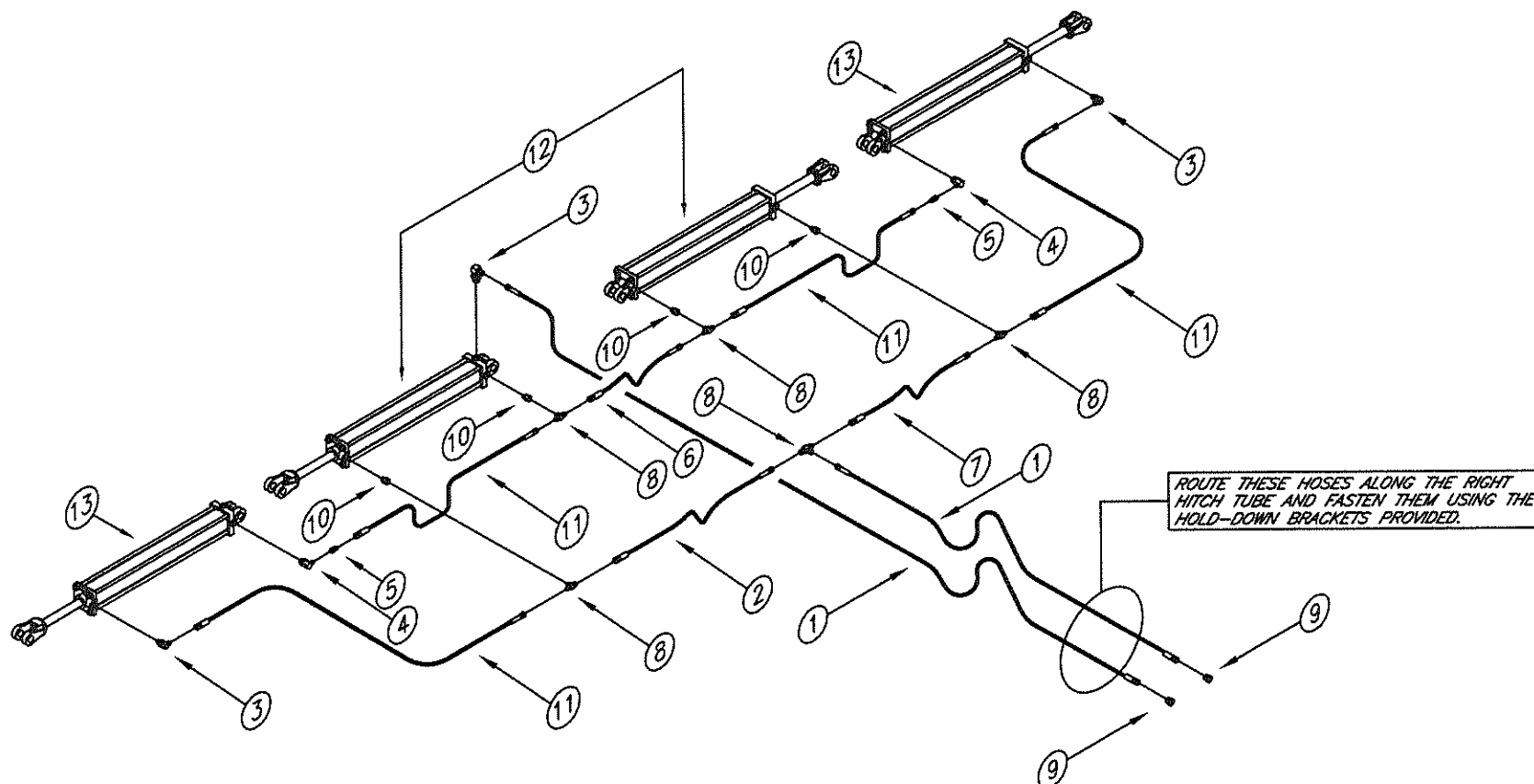
REFER TO NEXT PAGE FOR PART IDENTIFICATION

HYDRAULIC LIFT SYSTEM



REF. #	QTY.	PART #	DESCRIPTION
1	1	203011	DIVIDER - COMBINER VALVE
2	2	201059	NO.8 FJIC X NO.8 MALE JIC SWIVEL 90
3	8	201002	NO.8 MJIC X NO.8 MALE ORING BOSS 90
4	1	201010	NO. 8 MJIC TEE
5	1	201058	NO. 8 FJIC X NO. 8 MJIC BRANCH TEE
6	1	201008	NO. 8 MJIC X NO. 6 MALE O-RING STRT.
7	1	201004	NO. 8 MJIC X NO. 8 MALE O-RING STRT.
8	1	202147	3/8 X 6" X 8 FJIC X 8 FJIC HOSE
9	1	202124	3/8 X 28" X 8 FJIC X 8 FJIC HOSE
10	2	202125	3/8 X 135" X 8 FJIC X 8 FJIC HOSE
11	1	202133	3/8 X 159" X 8 FJIC X 8 FJIC HOSE
12	1	202131	3/8 X 200" X 8 FJIC X 8 FJIC HOSE
13	1	202128	3/8 X 96" X 8 FJIC X 8 FJIC HOSE
14	2	202134	3/8 X 224" X 8 FJIC X 1/2" MNPT HOSE
15	2	101130	3/8-16 X 3-1/2" HEX BOLT PLT. (N/S)
16	2	101220	3/8" LOCK WASHER PLT. (NOT SHOWN)
17	2	101211	3/8-16 HEX NUT PLT. (NOT SHOWN)

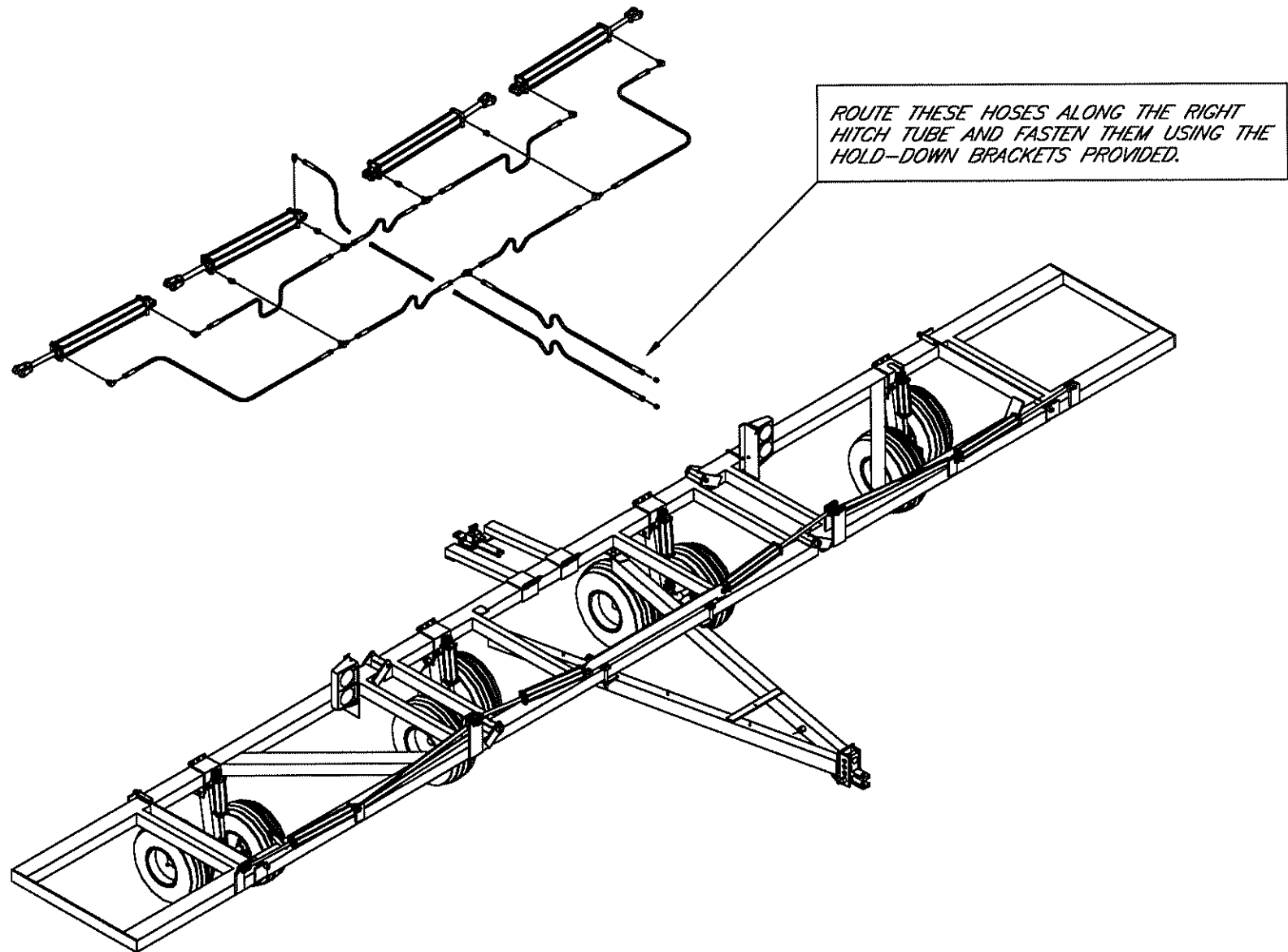
HYDRAULIC WING FOLD SYSTEM



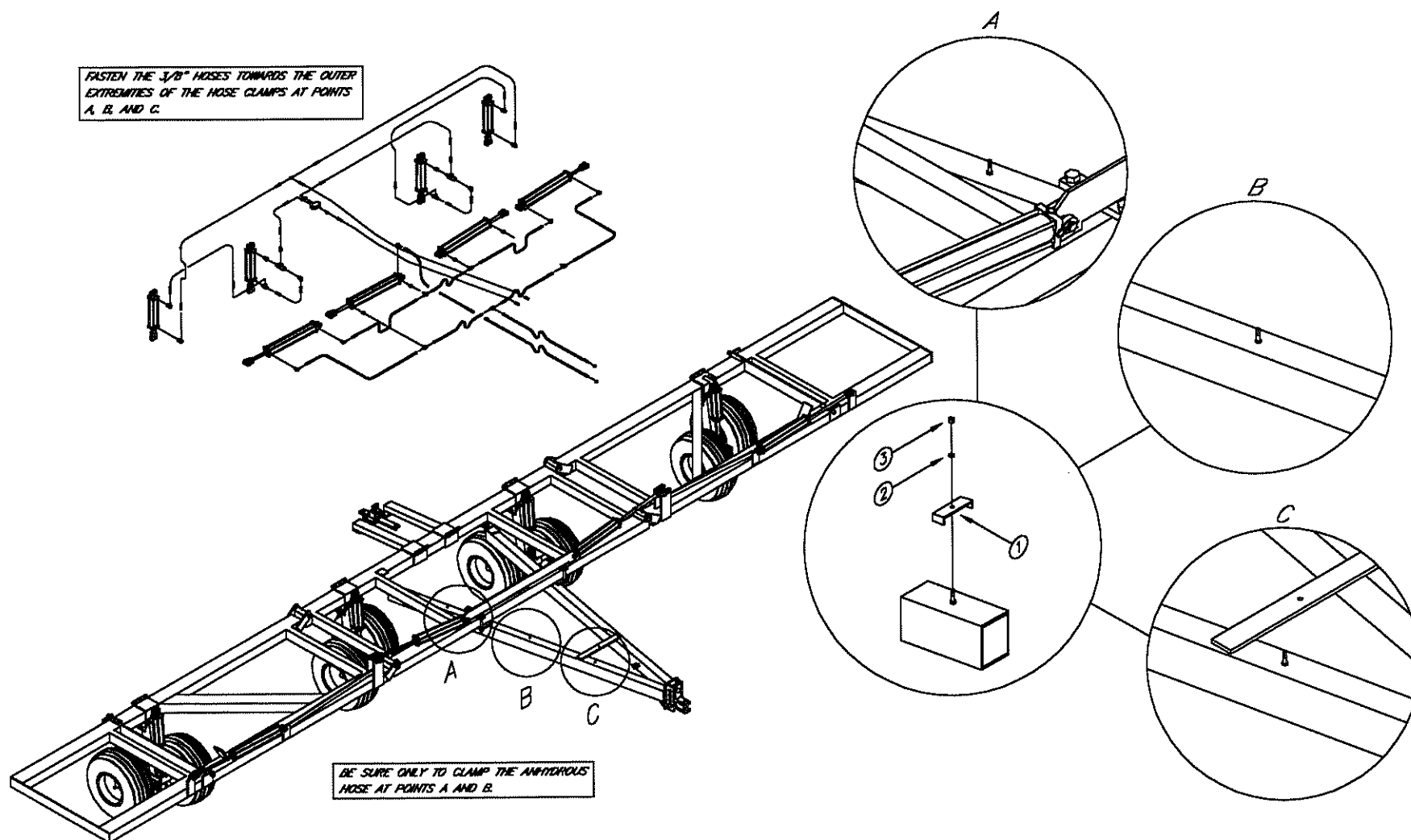
REF. #	QTY.	PART #	DESCRIPTION
1	2	202123	1/4 X 174" X 3/8 MNPT X No. 6 FJIC HOSE
2	1	212137	1/4 X 28" X No. 6 FJIC X No. 6 FJIC HOSE
3	3	201001	No. 6 MJIC X No. 8 MALE O-RING BOSS 90
4	2	201003	No. 6 MJIC X No. 8 MALE O-RING
5	2	201044	No. 6 MJIC X No. 6 FJIC RESTRICTOR
6	1	202138	1/4 X 80" X No. 6 FJIC X No. 6 FJIC HOSE

REF. #	QTY.	PART #	DESCRIPTION
7	1	202048	1/4 X 106" X No. 6 FJIC X No. 6 FJIC HOSE
8	5	201011	No. 6 MJIC X 1/2" MNPT BRANCH TEE
9	2	201014	1/2" MNPT X 3/8" FNPT REDUCER BUSHING
10	4	201012	No. 8 MALE O-RING X 1/4" FNPT BUSHING
11	4	202010	1/4 X 108" X No. 6 FJIC X No. 6 FJIC HOSE
12	2	204010	4 X 24" HYDRAULIC CYLINDER
13	2	204008	3 X 24" HYDRAULIC CYLINDER

HYDRAULIC WING FOLD SYSTEM

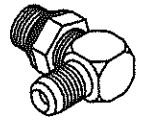


HOSE ROUTES AND HOSE CLAMP ASSEMBLY

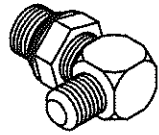


REF. #	QTY.	PART #	DESCRIPTION
1	3	400080	4 HOSE HOLD DOWN BRACKET
2	3	101220	3/8" LOCK WASHER - PLT
3	3	101211	3/8-16 HEX NUT - PLT

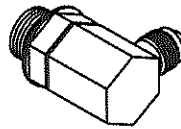
HYDRAULIC SYSTEM COMPONENT IDENTIFICATION



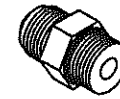
201001



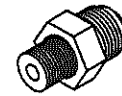
201002



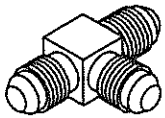
201003



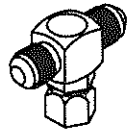
201004



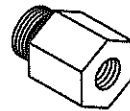
201008



201010



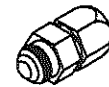
201011



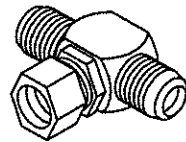
201012



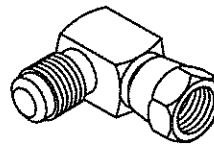
201014



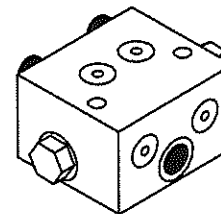
201044



201058

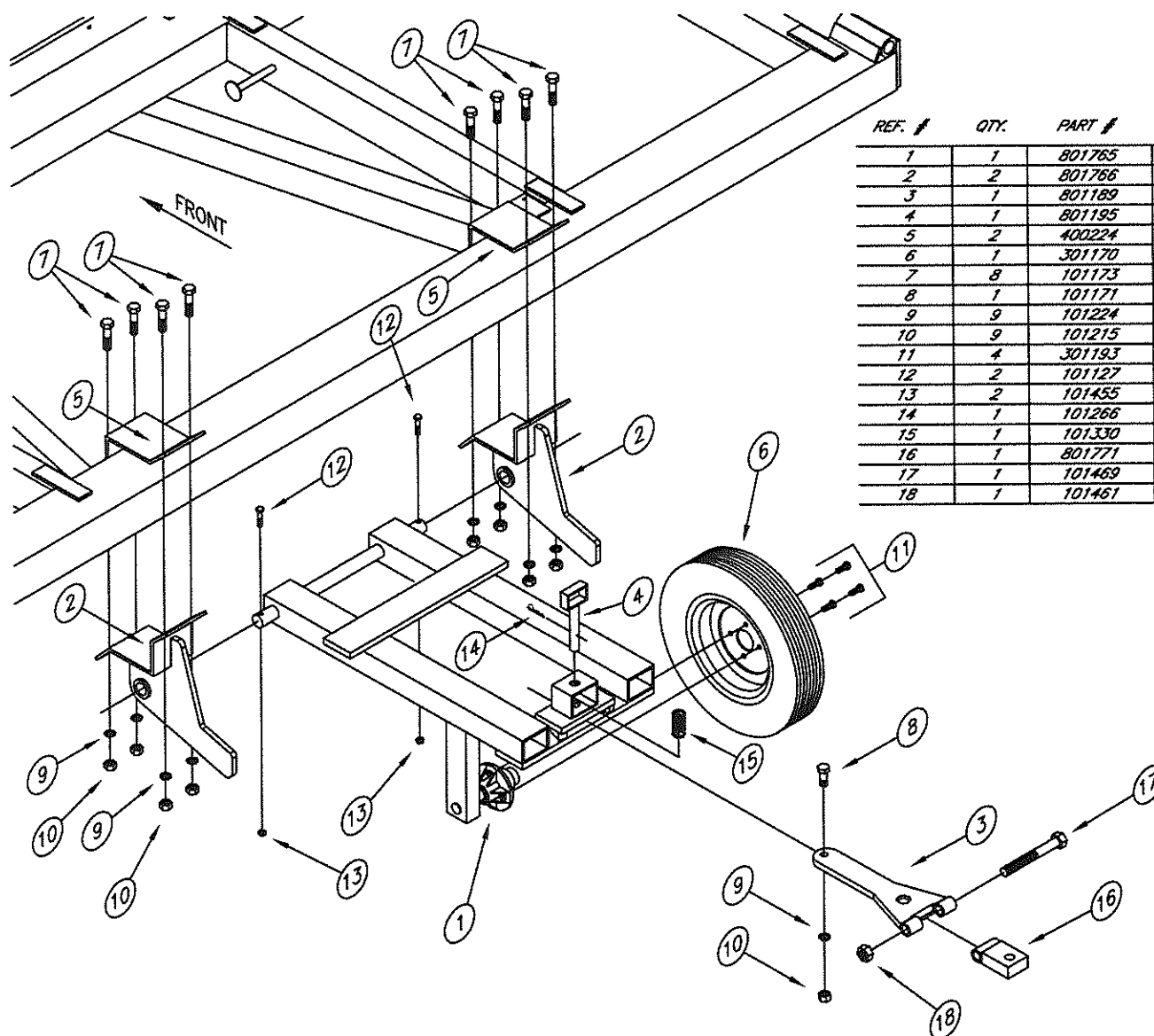


201059



203011

FLOATING REAR HITCH ASSEMBLY



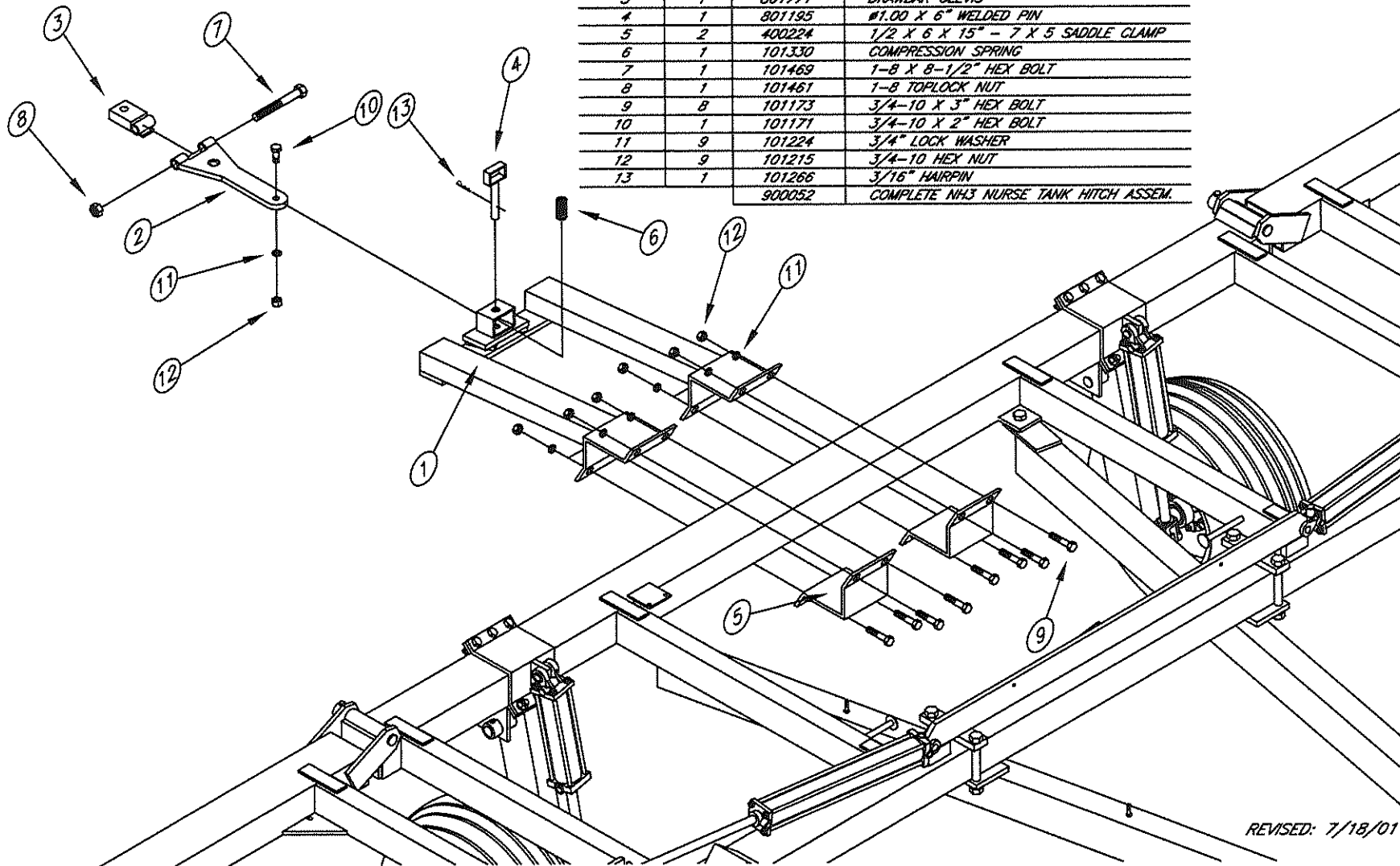
REF. #	QTY.	PART #	DESCRIPTION
1	1	801765	FLOATING REAR HITCH
2	2	801766	HITCH PIVOT PLATE/SADDLE CLAMP
3	1	801189	DRAWBAR
4	1	801195	#1.00 X 6" WELDED PIN
5	2	400224	1/2 X 6 X 15" - SADDLE CLAMP
6	1	301170	5.30-12 6 PLY TIRE & RIM
7	8	101173	3/4-10 X 3" HEX BOLT
8	1	101171	3/4-10 X 2" HEX BOLT
9	9	101224	3/4" LOCK WASHER
10	9	101215	3/4-10 HEX NUT
11	4	301193	1/2-20 X 1-1/4" WHIZ BOLT
12	2	101127	3/8-16 X 2" HEX BOLT
13	2	101455	3/8-16 TOPLOCK NUT
14	1	101266	3/16" HAIRPIN
15	1	101330	COMPRESSION SPRING
16	1	801771	DRAWBAR CLEVIS
17	1	101469	1-8 X 8-1/2" HEX BOLT
18	1	101461	1-8 TOPLOCK NUT

REVISED: 9/18/01

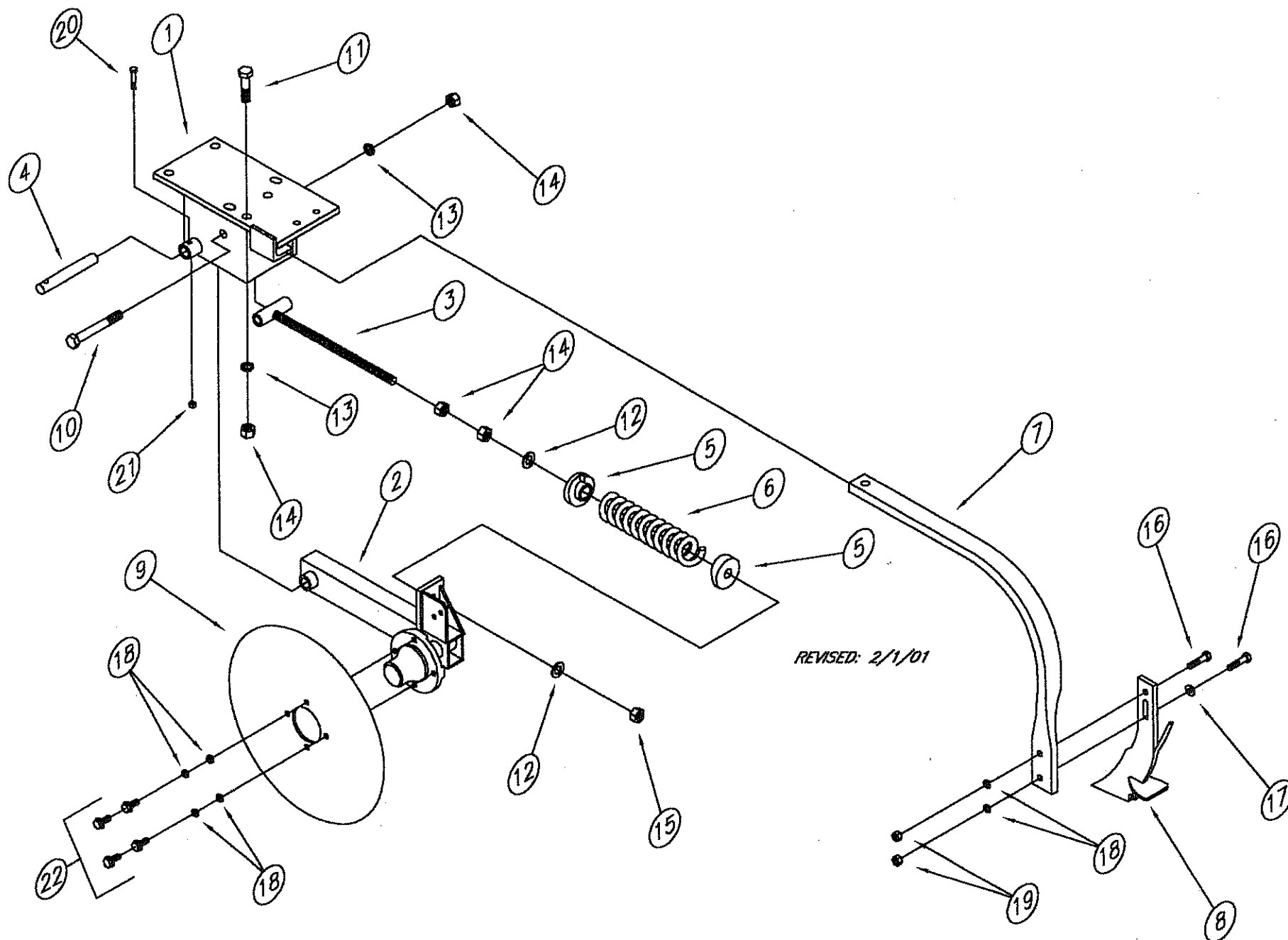
ATTACH THE SADDLE CLAMPS LOOSELY TO THE TOOLBAR, THEN INSERT PIN ENDS OF THE HITCH INTO THE PIVOT PLATES. ATTACH THE HITCH USING THE 7/16" HEX BOLTS. SLIDE THE PIVOT PLATES SO THAT THE HITCH IS CENTERED ON THE TOOLBAR, THEN TIGHTEN THE SADDLE CLAMPS.

NURSE TRAILER HITCH ASSEMBLY

REF. #	QTY.	PART #	DESCRIPTION
1	1	801087A	ANHYDROUS NURSE TRAILER HITCH
2	1	801189	DRAWBAR
3	1	801771	DRAWBAR CLEVIS
4	1	801195	#1.00 X 6" WELDED PIN
5	2	400224	1/2 X 6 X 15" - 7 X 5 SADDLE CLAMP
6	1	101330	COMPRESSION SPRING
7	1	101469	1-8 X 8-1/2" HEX BOLT
8	1	101461	1-8 TOPLOCK NUT
9	8	101173	3/4-10 X 3" HEX BOLT
10	1	101171	3/4-10 X 2" HEX BOLT
11	9	101224	3/4" LOCK WASHER
12	9	101215	3/4-10 HEX NUT
13	1	101266	3/16" HAIRPIN
		900052	COMPLETE NH3 NURSE TANK HITCH ASSEM.



REVISED: 7/18/01

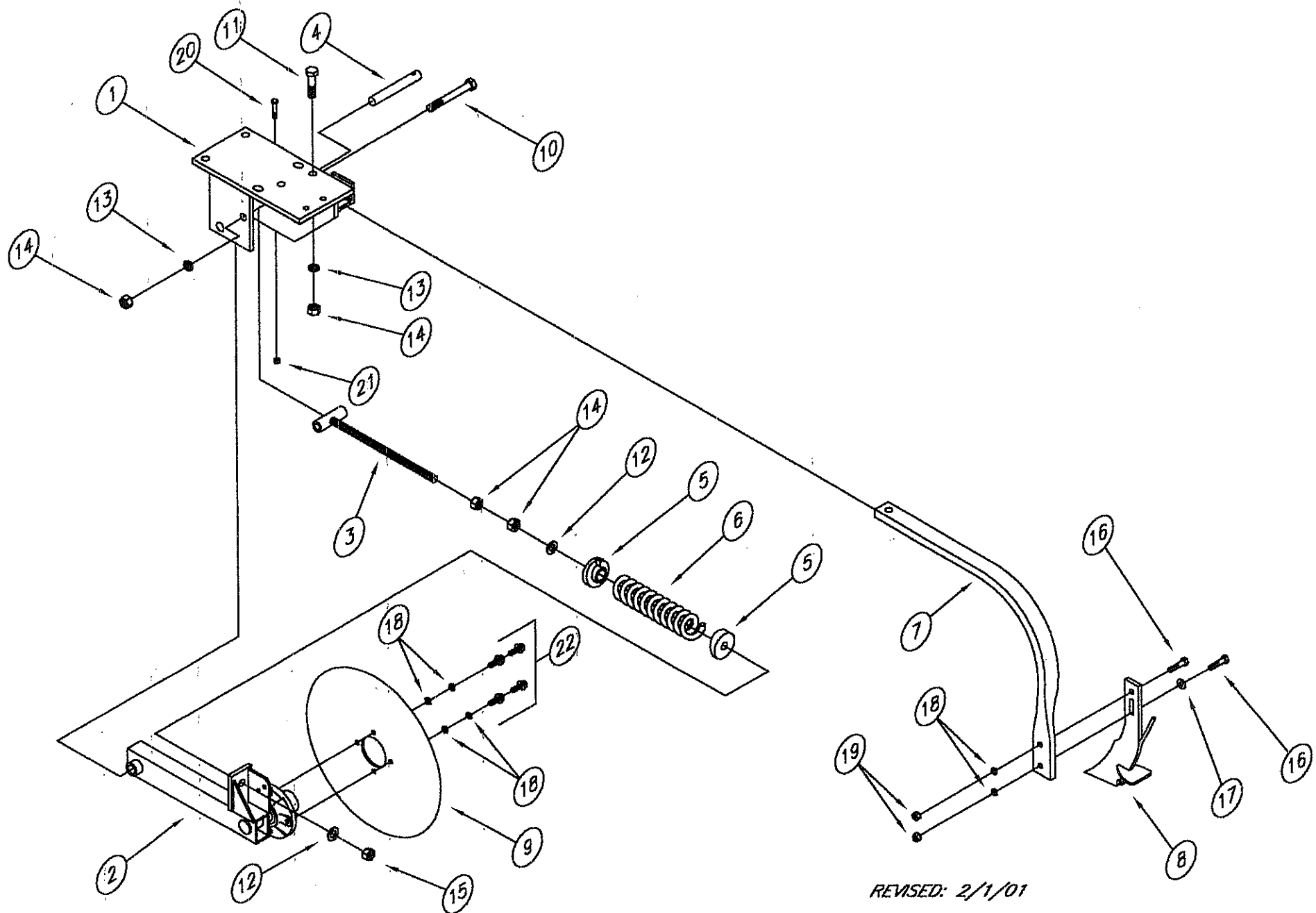
SINGLE COLTER AMMONIA APPLICATION ASSEMBLY – LEFT

LEFT COLTER ASSEMBLY COMPLETE – 900011L

<i>REF. #</i>	<i>QTY.</i>	<i>PART #</i>	<i>DESCRIPTION</i>	<i>REVISED: 1/30/01</i>
1	1	801325	UNIVERSAL AMMONIA MOUNTING BRACKET – LEFT	
2	1	801204	LEFT SPINDLE TUBE & BUSHING ASSEMBLY	
3	1	801198	SPRING TENSION ROD WELDMENT	
4	1	602212	Ø1.00 X 7-1/4" PIN	
5	2	400096	SPRING RETAINER CASTING	
6	1	400095	COMPRESSION SPRING	
7	1	900037	SIDE MOUNT SHANK	
8	1	900036	AMMONIA KNIFE WITH SEALER	
9	1	400097	20" SMOOTH COLTER	
10	1	101179	3/4-10 X 6" HEX BOLT	
11	1	101422	3/4-10 X 3" HEX BOLT – GR 8 YELLOW ZINC	
12	2	101233	3/4" FLAT WASHER	
13	2	101224	3/4" LOCK WASHER	
14	4	101215	3/4-10 HEX NUT	
15	1	101459	3/4-10 TOPLOCK NUT	
16	2	101149	1/2-13 X 2" HEX BOLT	
17	1	101231	1/2" FLAT WASHER	
18	6	101222	1/2" LOCK WASHER	
19	2	101213	1/2-13 HEX NUT	
20	1	101127	3/8-16 X 2" HEX BOLT	
21	1	101455	3/8-16 TOPLOCK NUT	
22	4	301193	1/2-20 X 1-1/4" WHIZ BOLT	
-	2	**	3/4-10 U-BOLT (NOT SHOWN)	
-	4	101224	3/4" LOCK WASHER (NOT SHOWN)	
-	4	101215	3/4-10 HEX NUT (NOT SHOWN)	

** FOR 7 X 7 TUBE, USE 3/4-10 X 7 X 9" U-BOLT – PART # 101316.

** FOR 7 X 5 TUBE, USE 3/4-10 X 7 X 6-1/2" U-BOLT – PART # 101315.

SINGLE COLTER AMMONIA APPLICATION ASSEMBLY – RIGHT

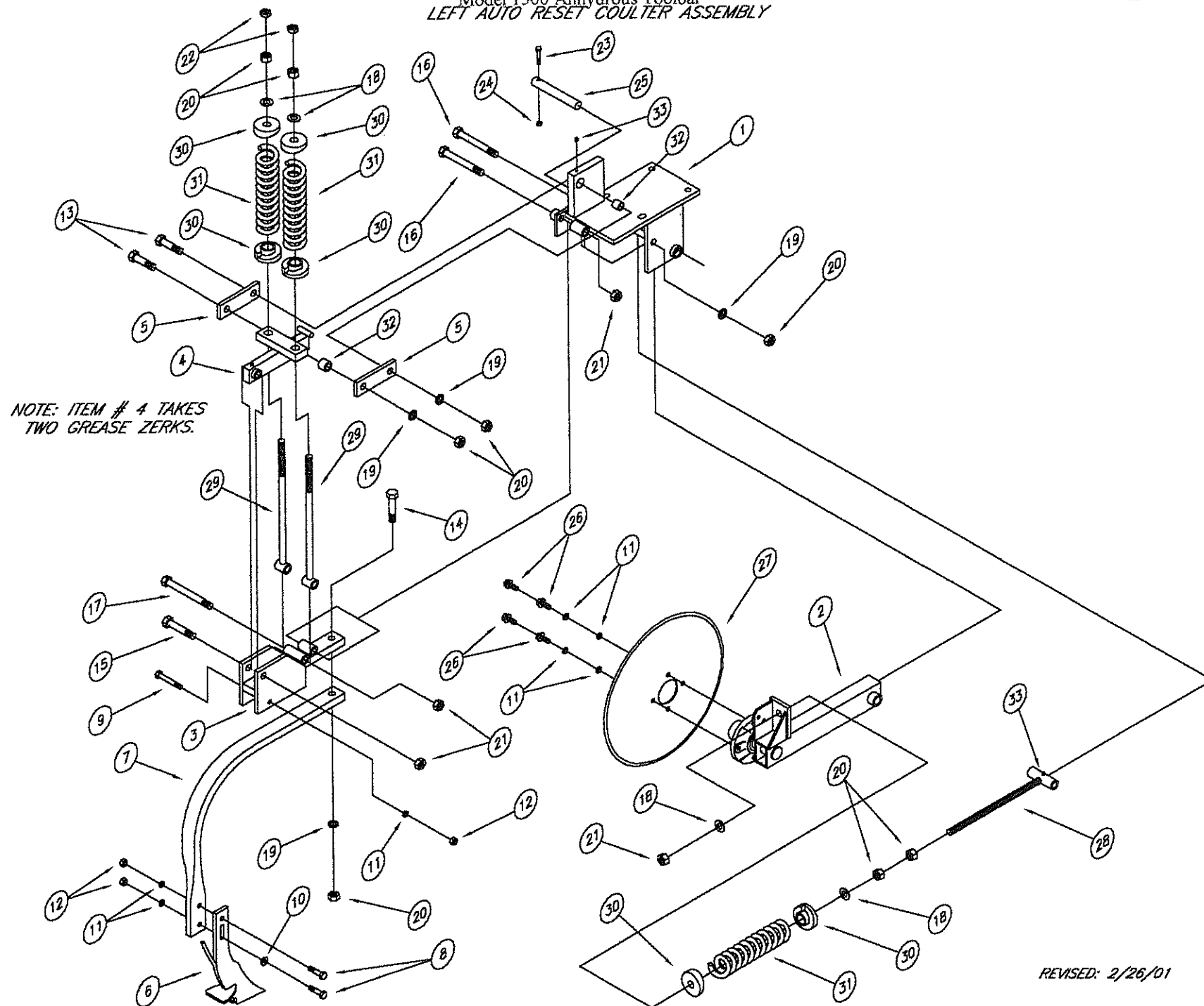
RIGHT COLTER ASSEMBLY COMPLETE - 900011R

REF. #	QTY.	PART #	DESCRIPTION	REVISED: 7/31/00
1	1	801326	UNIVERSAL AMMONIA MOUNTING BRACKET - RIGHT	
2	1	801203	RIGHT SPINDLE TUBE & BUSHING ASSEMBLY	
3	1	801198	SPRING TENSION ROD WELDMENT	
4	1	602163	Ø1.00 X 7" PIN	
5	2	400096	SPRING RETAINER CASTING	
6	1	400095	COMPRESSION SPRING	
7	1	900037	SIDE MOUNT SHANK	
8	1	900036	AMMONIA KNIFE WITH SEALER	
9	1	400097	20" SMOOTH COLTER	
10	1	101179	3/4-10 X 6" HEX BOLT	
11	1	101422	3/4-10 X 3" HEX BOLT - GR 8 YELLOW ZINC	
12	2	101233	3/4" FLAT WASHER	
13	2	101224	3/4" LOCK WASHER	
14	4	101215	3/4-10 HEX NUT	
15	1	101459	3/4-10 TOPLOCK NUT	
16	2	101149	1/2-13 X 2" HEX BOLT	
17	1	101231	1/2" FLAT WASHER	
18	6	101222	1/2" LOCK WASHER	
19	2	101213	1/2-13 HEX NUT	
20	1	101127	3/8-16 X 2" HEX BOLT	
21	1	101455	3/8-16 TOPLOCK NUT	
22	4	301193	1/2-20 X 1-1/4" WHIZ BOLT	
-	2	**	3/4-10 U-BOLT (NOT SHOWN)	
-	4	101224	3/4" LOCK WASHER (NOT SHOWN)	
-	4	101215	3/4-10 HEX NUT (NOT SHOWN)	

** FOR 7 X 7 TUBE, USE 3/4-10 X 7 X 9" U-BOLT - PART # 101316.

** FOR 7 X 5 TUBE, USE 3/4-10 X 7 X 6-1/2" U-BOLT - PART # 101315.

Model 1500 Anhydrous Toolbar
LEFT AUTO RESET COULTER ASSEMBLY



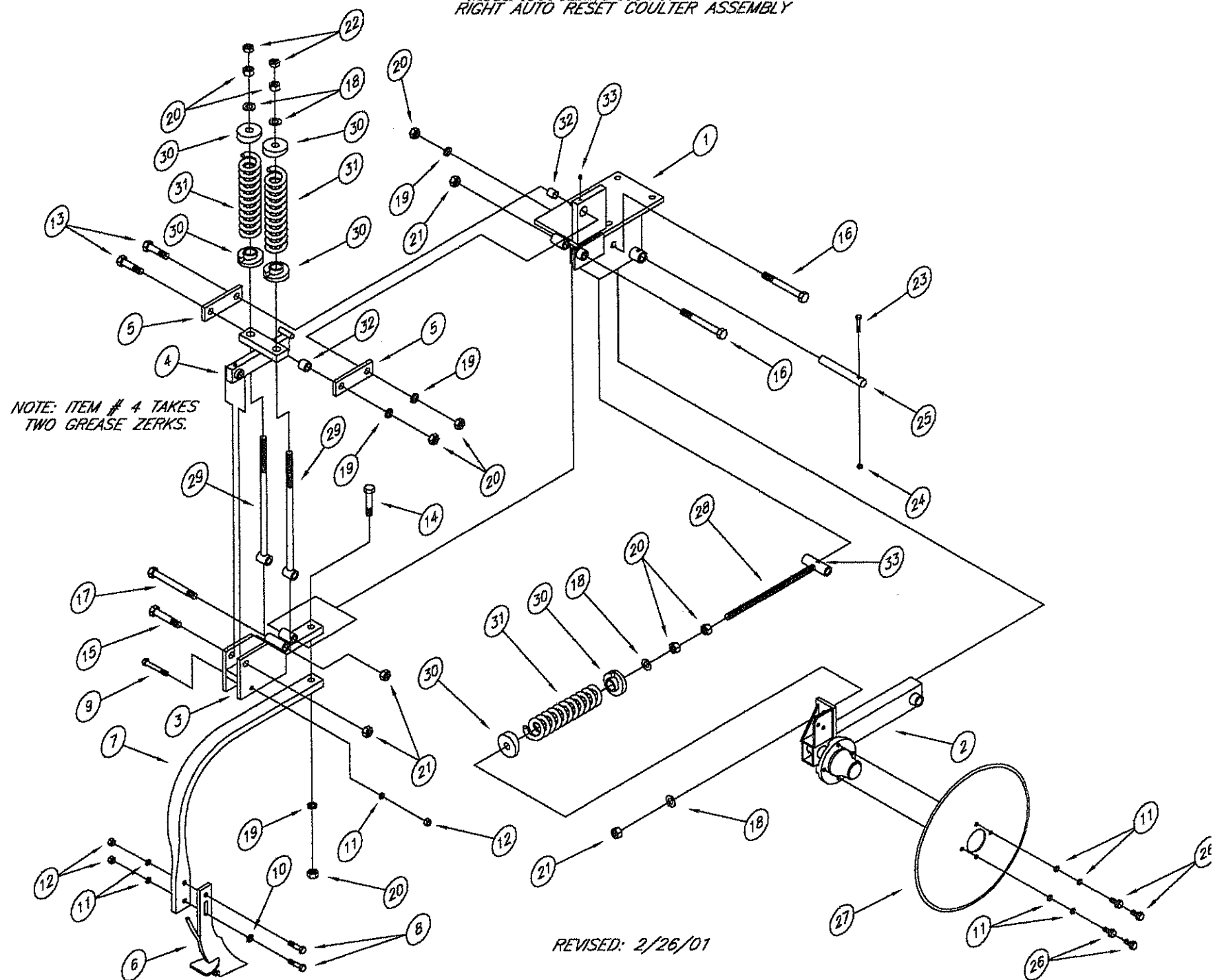
LEFT AUTO RESET COULTER ASSEMBLY COMPLETE - 900082L

REFERENCE #	QUANTITY	PART #	DESCRIPTION
1	1	801684	LEFT MOUNTING BRACKET
2	1	801204	LEFT SPINDLE TUBE & BUSHING ASSEM.
3	1	801686	SHANK MOUNTING BRACKET
4	1	801687	AUTO RESET BRACKET
5	2	400201	1/2 X 2 X 6-1/8" PIVOT PLATE
6	1	900036	AMMONIA KNIFE WITH SEALER
7	1	900037	SIDE MOUNT SHANK
8	2	101149	1/2-13 X 2" HEX BOLT PLT.
9	1	101153	1/2-13 X 4" HEX BOLT PLT.
10	1	101231	1/2" FLAT WASHER PLT.
11	7	101222	1/2" LOCK WASHER PLT.
12	3	101213	1/2-13 HEX NUT PLT.
13	2	101173	3/4-10 X 3" HEX BOLT PLT.
14	1	101422	3/4-10 X 3" HEX BOLT - GR 8 YELLOW ZINC
15	1	101175	3/4-10 X 4" HEX BOLT PLT.
16	2	101179	3/4-10 X 6" HEX BOLT PLT.
17	1	101180	3/4-10 X 7" HEX BOLT PLT.
18	4	101233	3/4" FLAT WASHER PLT.
19	4	101224	3/4" LOCK WASHER PLT.
20	8	101215	3/4-10 HEX NUT PLT.
21	4	101459	3/4-10 TOPLOCK NUT PLT.
22	2	101382	3/4-10 JAM NUT PLT.
23	1	101127	3/8-16 X 2" HEX BOLT PLT.
24	1	101455	3/8-16 TOPLOCK NUT PLT.
25	1	602212	Ø1.00 X 7-1/4" PIN
26	4	301193	1/2-20 X 1-1/4" WHIZ BOLT PLT.
27	1	400097	20" SMOOTH COULTER BLADE
28	1	801198	SPRING TENSION ROD - 15" LONG
29	2	801688	SPRING TENSION ROD - 17-1/2" LONG
30	6	400096	SPRING RETAINER CASTING
31	3	400095	COMPRESSION SPRING
32	2	602211	1.250" O.D. X .774" I.D. X 1-1/16" BUSH.
33	4	101252	1/4-28 STRAIGHT GREASE ZERK
-	2	**	3/4-10 U-BOLT PLT. (NOT SHOWN)
-	4	101224	3/4" LOCK WASHER PLT. (NOT SHOWN)
-	4	101215	3/4-10 HEX NUT PLT. (NOT SHOWN)

REVISED: 2/26/01

** FOR 7 X 7 BAR, USE 3/4-10 X 7 X 9" U-BOLT - PART # 101316.

** FOR 7 X 5 BAR, USE 3/4-10 X 7 X 6-1/2" U-BOLT - PART # 101315.



RIGHT AUTO RESET COULTER ASSEMBLY COMPLETE - 900082R

REFERENCE #	QUANTITY	PART #	DESCRIPTION
1	1	801685	RIGHT MOUNTING BRACKET
2	1	801203	RIGHT SPINDLE TUBE & BUSHING ASSEM.
3	1	801686	SHANK MOUNTING BRACKET
4	1	801687	AUTO RESET BRACKET
5	2	400201	1/2 X 2 X 6-1/8" PIVOT PLATE
6	1	900036	AMMONIA KNIFE WITH SEALER
7	1	900037	SIDE MOUNT SHANK
8	2	101149	1/2-13 X 2" HEX BOLT PLT.
9	1	101153	1/2-13 X 4" HEX BOLT PLT.
10	1	101231	1/2" FLAT WASHER PLT.
11	7	101222	1/2" LOCK WASHER PLT.
12	3	101213	1/2-13 HEX NUT PLT.
13	2	101173	3/4-10 X 3" HEX BOLT PLT.
14	1	101422	3/4-10 X 3" HEX BOLT - GR 8 YELLOW ZINC
15	1	101175	3/4-10 X 4" HEX BOLT PLT.
16	2	101179	3/4-10 X 6" HEX BOLT PLT.
17	1	101180	3/4-10 X 7" HEX BOLT PLT.
18	4	101233	3/4" FLAT WASHER PLT.
19	4	101224	3/4" LOCK WASHER PLT.
20	8	101215	3/4-10 HEX NUT PLT.
21	4	101459	3/4-10 TOPLOCK NUT PLT.
22	2	101382	3/4-10 JAM NUT PLT.
23	1	101127	3/8-16 X 2" HEX BOLT PLT.
24	1	101455	3/8-16 TOPLOCK NUT PLT.
25	1	602212	#1.00 X 7-1/4" HINGE PIN
26	4	301193	1/2-20 X 1-1/4" WHIZ BOLT PLT.
27	1	400097	20" SMOOTH COULTER BLADE
28	1	801198	SPRING TENSION ROD - 15" LONG
29	2	801688	SPRING TENSION ROD - 17-1/2" LONG
30	6	400096	SPRING RETAINER CASTING
31	3	400095	COMPRESSION SPRING
32	2	602211	1.250" O.D. X .774" I.D. X 1-1/16" BUSH.
33	4	101252	1/4-28 STRAIGHT GREASE ZERK
-	2	**	3/4-10 U-BOLT PLT. (NOT SHOWN)
-	4	101224	3/4" LOCK WASHER PLT. (NOT SHOWN)
-	4	101215	3/4-10 HEX NUT PLT. (NOT SHOWN)

REVISED: 2/26/01

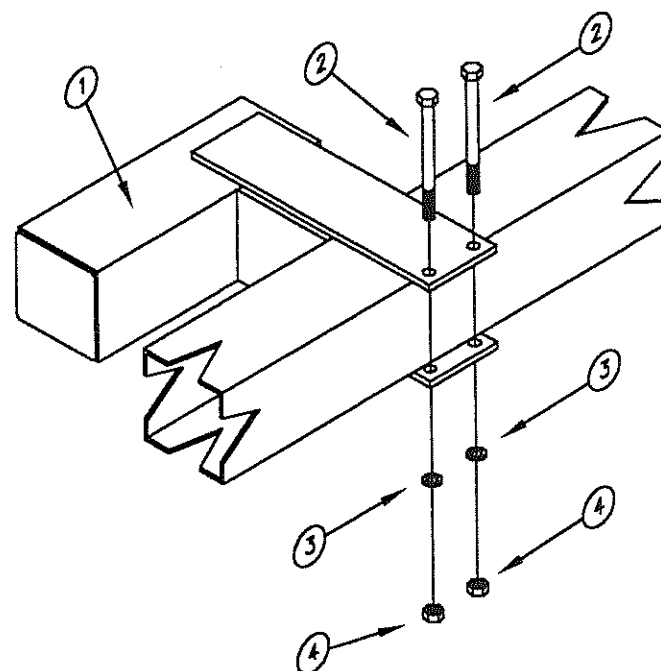
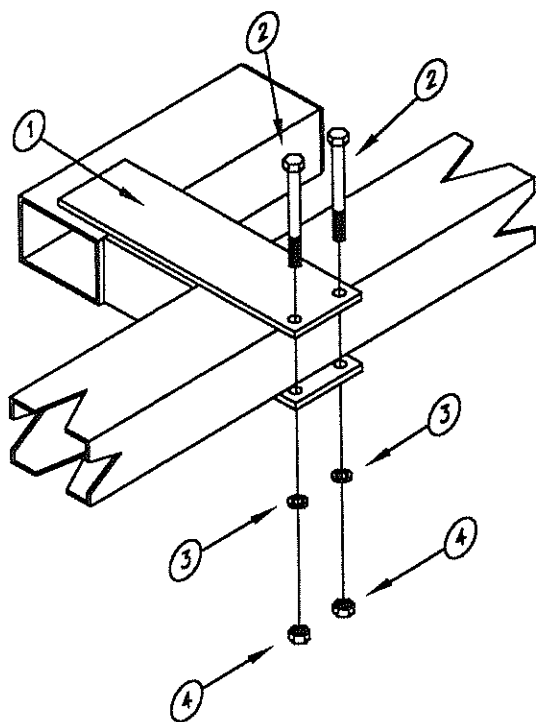
** FOR 7 X 7 BAR, USE 3/4-10 X 7 X 9" U-BOLT - PART # 101316.

** FOR 7 X 5 BAR, USE 3/4-10 X 7 X 6-1/2" U-BOLT - PART # 101315.

OFFSET BRACKET ASSEMBLY

REF #	QTY	PART #	DESCRIPTION
1	1	801731	OFFSET BRACKET FOR 7 X 5 TUBE
2	2	101438	3/4-10 X 7-1/2" HEX BOLT
3	2	101224	3/4" LOCK WASHER
4	2	101215	3/4-10 HEX NUT

ENTIRE ASSEMBLY (ITEMS 1-4) MAY BE ORDERED USING PART # 900072.



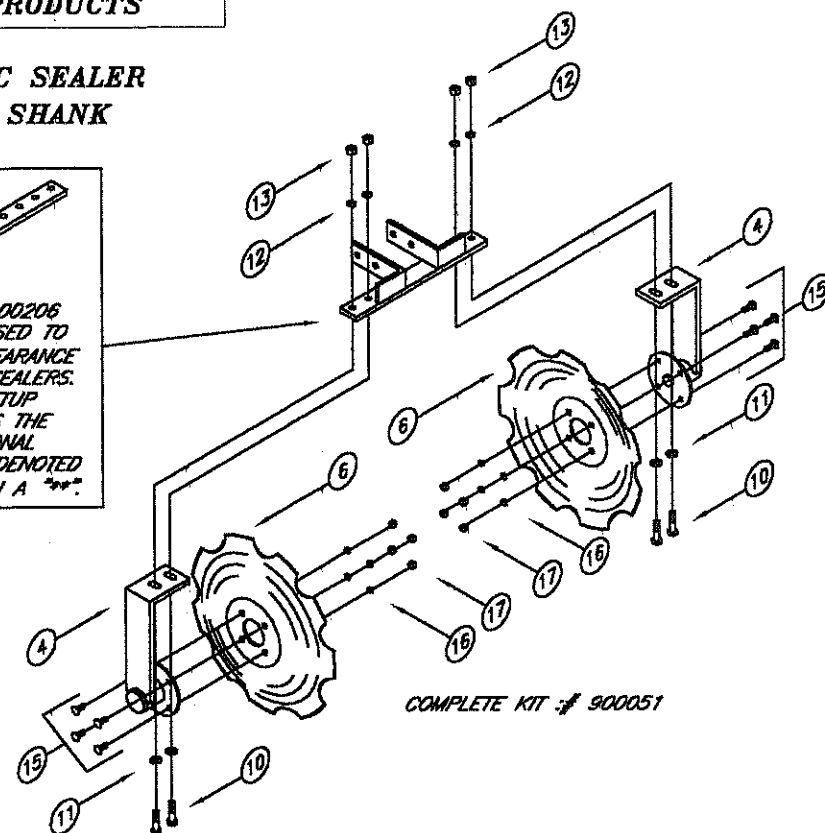
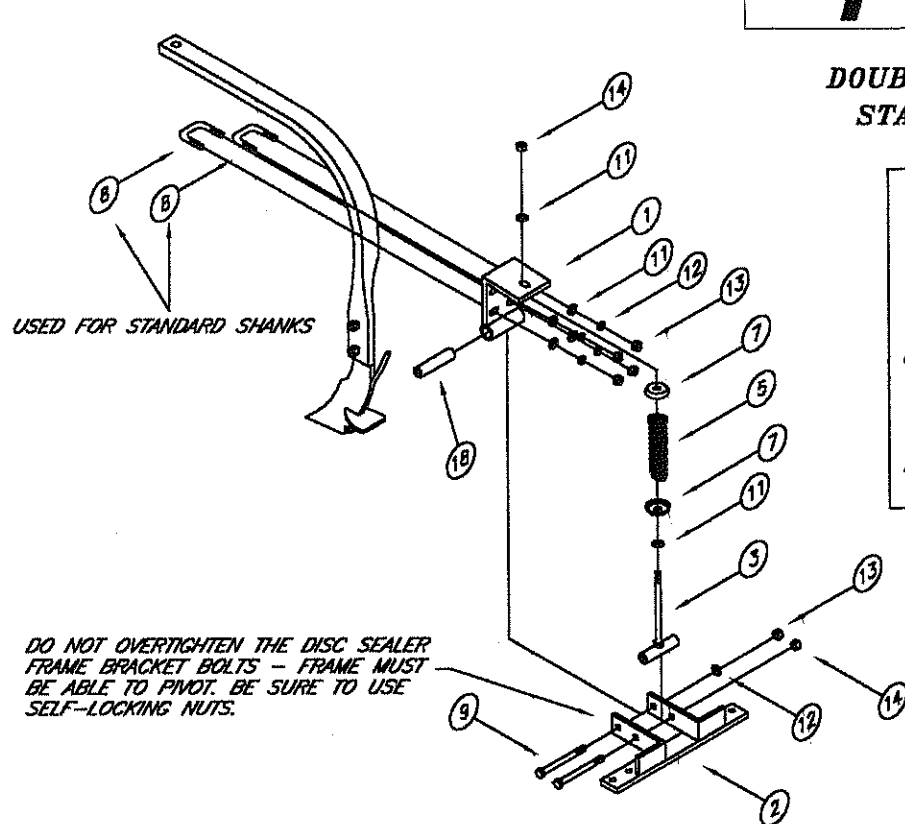
REF #	QTY	PART #	DESCRIPTION
1	1	801730	OFFSET BRACKET FOR 7 X 7 TUBE
2	2	101182	3/4-10 X 9" HEX BOLT
3	2	101224	3/4" LOCK WASHER
4	2	101215	3/4-10 HEX NUT

ENTIRE ASSEMBLY (ITEMS 1-4) MAY BE ORDERED USING PART # 900074.



PROGRESSIVE
FARM PRODUCTS

DOUBLE DISC SEALER STANDARD SHANK

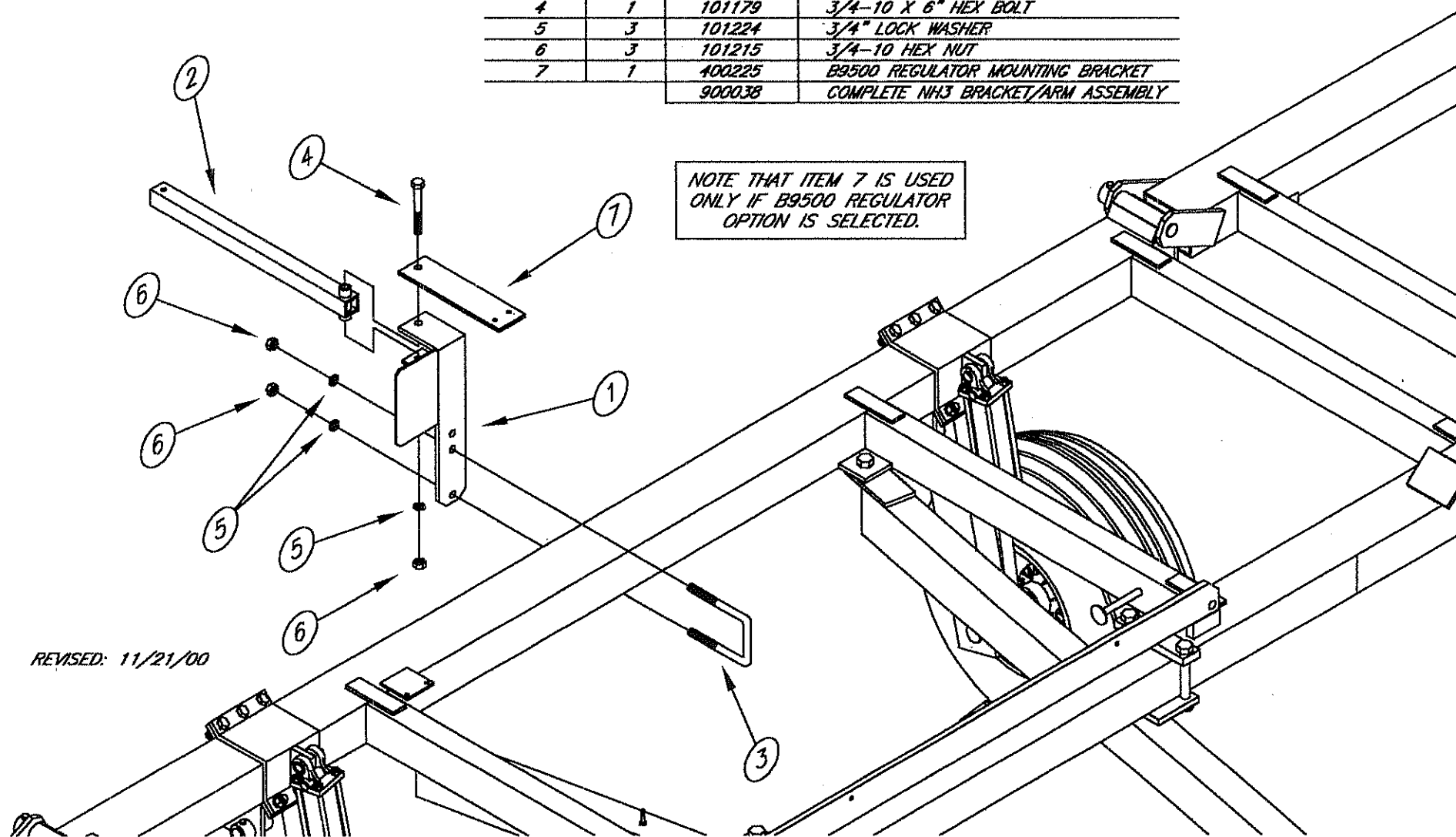


REF. #	QTY.	PART #	DESCRIPTION
1	1	801694	SHANK MOUNTING BRACKET
2	1	801327	DISC SEALER FRAME BRACKET
3	1	801329	SPRING PIVOT BOLT & BUSHING ASSEMBLY
4	2	801330	SEALER ARM ASSEMBLY
5	1	400123	COMPRESSION SPRING
6	2	400107	18" NOTCHED DISC
7	2	101299	5/8" CUP WASHER
8	2	101355	1/2-13 X 2" X 2-1/2" U-BOLT
9	2	101156	1/2-13 X 5-1/2" HEX BOLT
10	4	101149	1/2-13 X 2" HEX BOLT
11	10	101231	1/2" FLAT WASHER

REF. #	QTY.	PART #	DESCRIPTION	REVISED: 1/22/01
12	9	101222	1/2" LOCK WASHER	
13	9	101213	1/2-13 HEX NUT	
14	2	101457	1/2-13 TOPLOCK NUT	
15	8	101357	3/8-16 X 1" CARRIAGE BOLT	
16	8	101220	3/8" LOCK WASHER	
17	8	101211	3/8-16 HEX NUT	
18	1	602214	1.000 O.D. X .524 I.D. X 4-1/8" BUSHING	
**	2	101150	1/2-13 X 2-1/2" HEX BOLT	
**	2	101222	1/2" LOCK WASHER	
**	2	101213	1/2-13 HEX NUT	

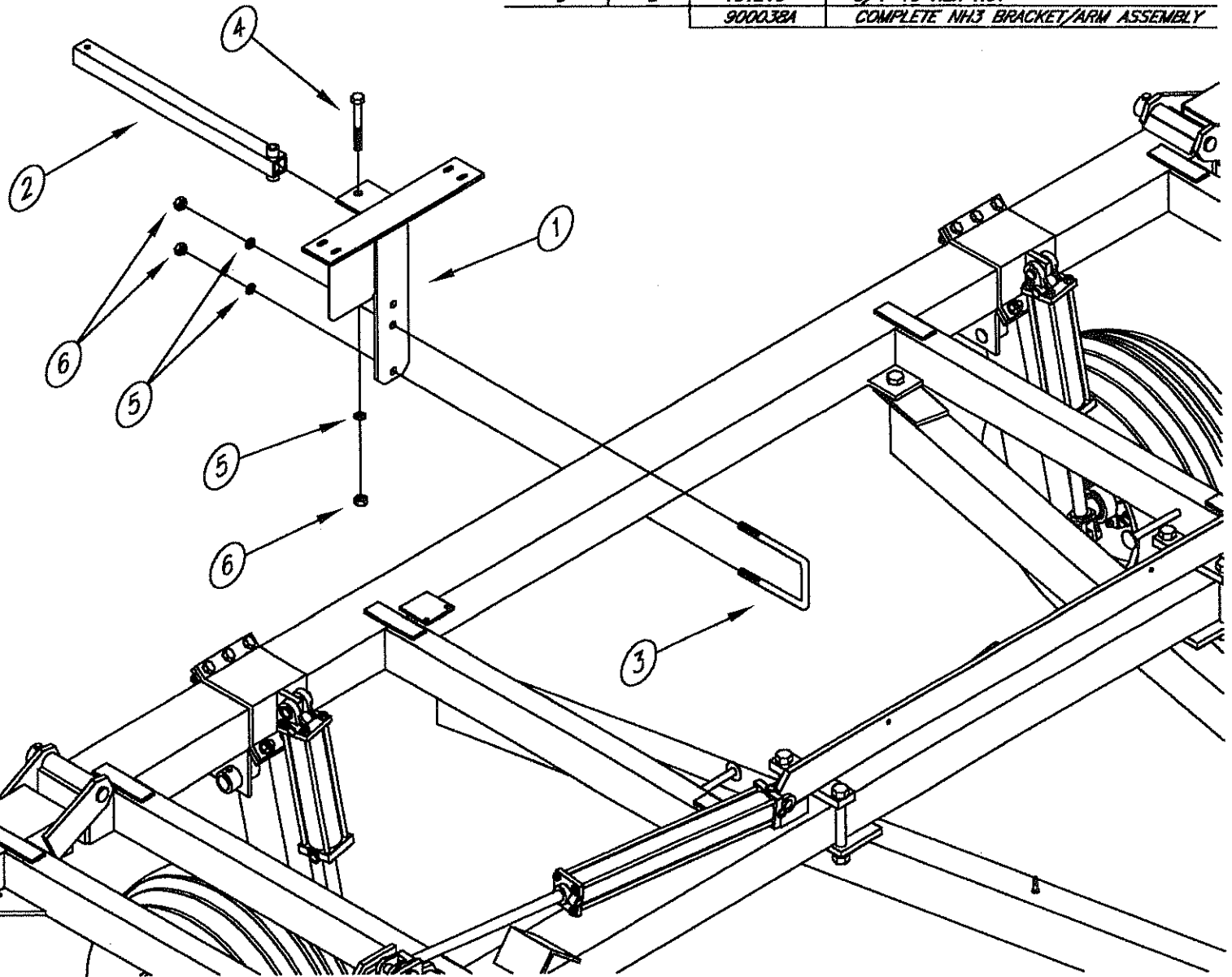
SINGLE REGULATOR BRACKET ASSEMBLY

REF. #	QTY.	PART #	DESCRIPTION
1	1	801683	SWING ARM MOUNTING BRACKET
2	1	801276	SWING ARM
3	1	101317	3/4-10 X 5 X 8-1/2" U-BOLT
4	1	101179	3/4-10 X 6" HEX BOLT
5	3	101224	3/4" LOCK WASHER
6	3	101215	3/4-10 HEX NUT
7	1	400225	B9500 REGULATOR MOUNTING BRACKET
		900038	COMPLETE NH3 BRACKET/ARM ASSEMBLY



DUAL REGULATOR BRACKET ASSEMBLY

REF. #	QTY.	PART #	DESCRIPTION
1	1	801271	DUAL REGULATOR BRACKET
2	1	801276	SWING ARM
3	1	101317	3/4-10 X 5 X 8-1/2" U-BOLT
4	1	101179	3/4-10 X 6" HEX BOLT
5	3	101224	3/4" LOCK WASHER
6	3	101215	3/4-10 HEX NUT
			900038A COMPLETE NH3 BRACKET/ARM ASSEMBLY



REVISED: 7/26/00

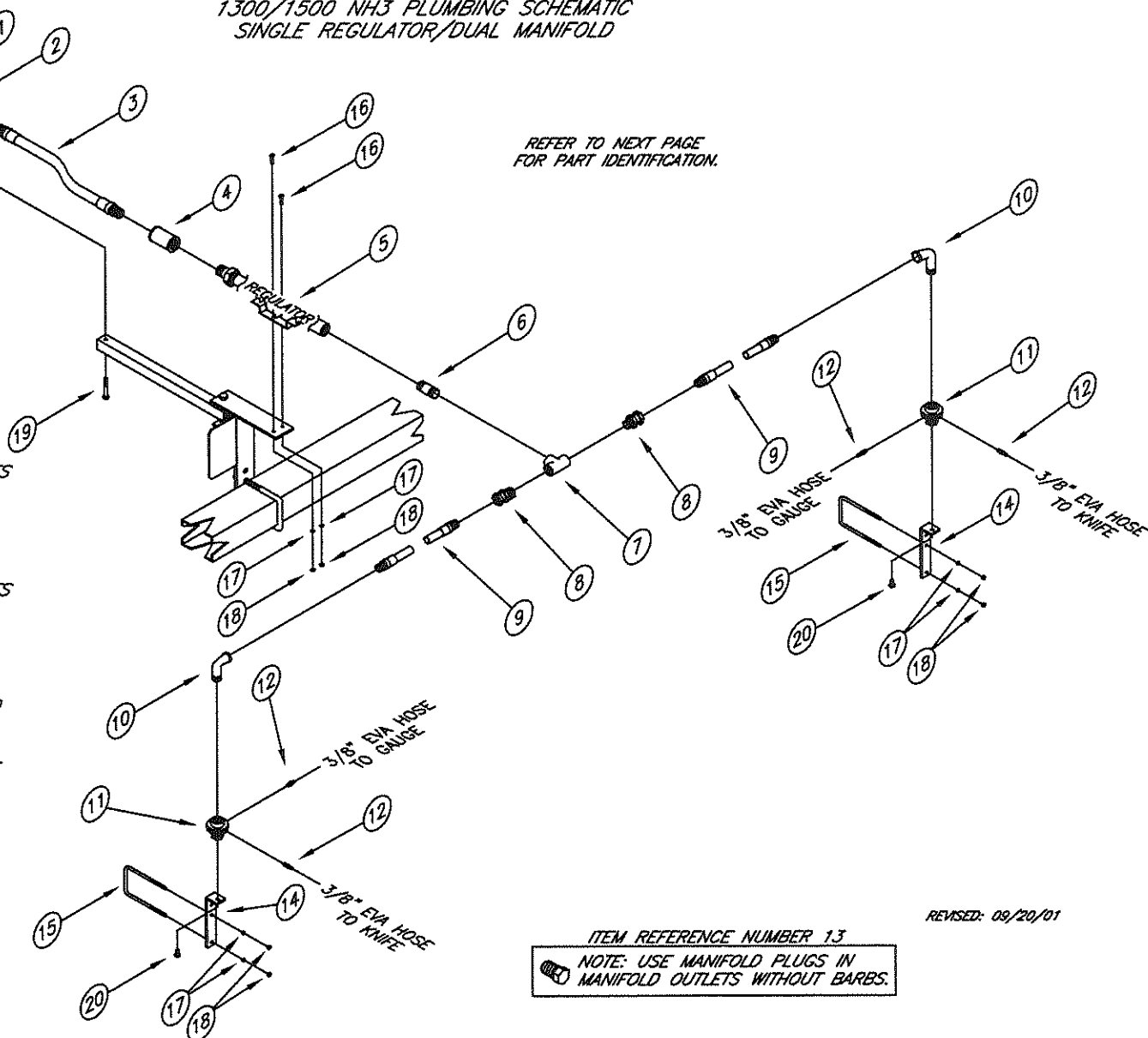
1300/1500 NH₃ PLUMBING SCHEMATIC
SINGLE REGULATOR/DUAL MANIFOLD

REFER TO NEXT PAGE
FOR PART IDENTIFICATION.

NOTE THAT THE 3/8" EVA HOSES
ARE SOLD BY THE FOOT AND
CARRY A PART NUMBER OF
700120.

NOTE THAT THE 1/2" EVA HOSES
ARE SOLD BY THE FOOT AND
CARRY A PART NUMBER OF
700117.

EVA HOSE MAY BE PURCHASED
BY THE ROLL USING PART
NUMBER 700209 FOR A 250'
ROLL OF 3/8" HOSE OR PART
NUMBER 700210 FOR A 250'
ROLL OF 1/2" HOSE.

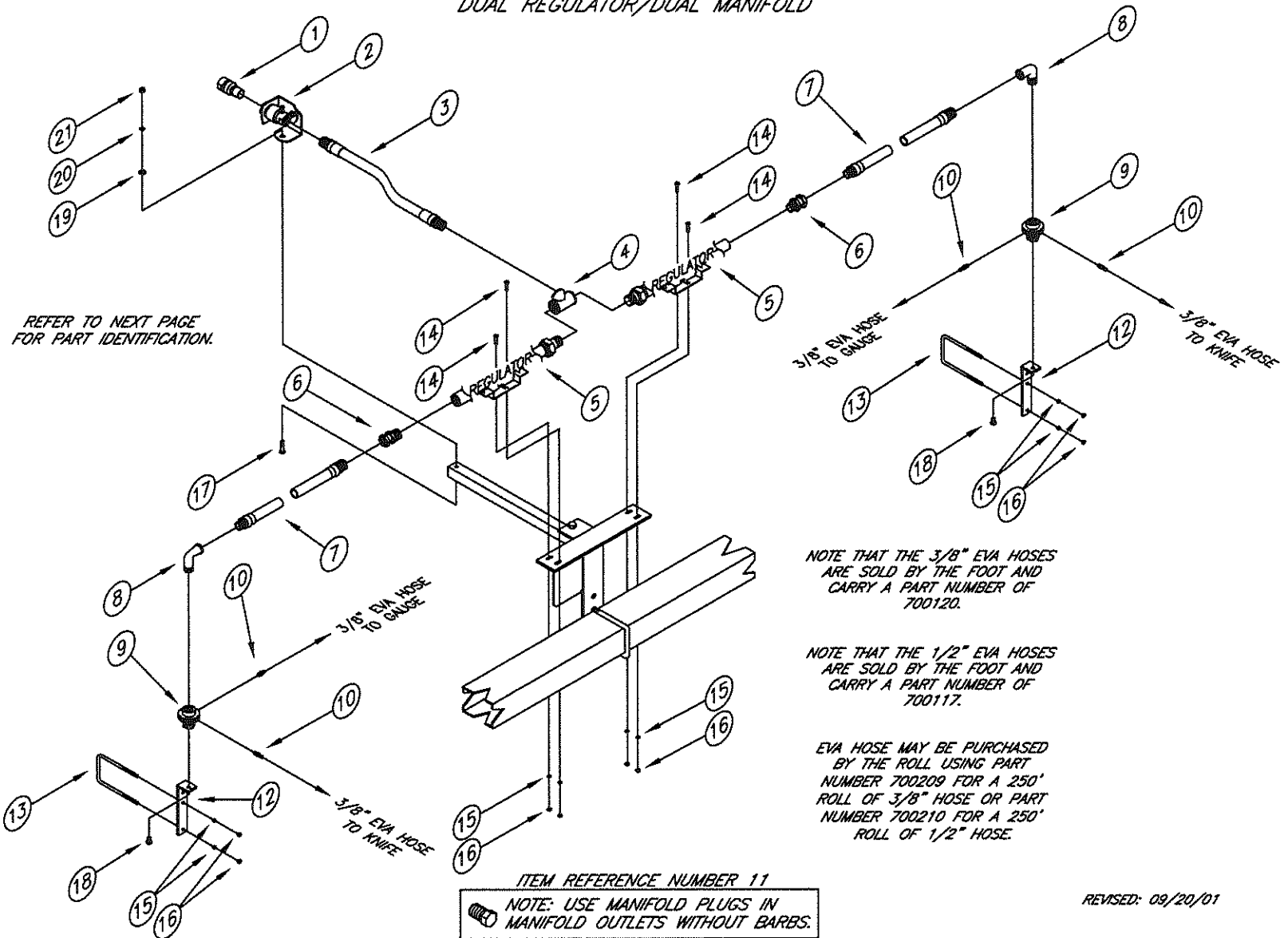


*1300/1500 NH3 PLUMBING SCHEMATIC
SINGLE REGULATOR/DUAL MANIFOLD*

<i>REF. #</i>	<i>QTY.</i>	<i>PART #</i>	<i>DESCRIPTION</i>
<i>1</i>	<i>1</i>	<i>700278</i>	<i>1-1/4" MALE COUPLER TIP (NH3)</i>
<i>2</i>	<i>1</i>	<i>700276</i>	<i>1-1/4" QUICK COUPLER ASSEMBLY</i>
<i>3</i>	<i>1</i>	<i>700274</i>	<i>1-1/4" AA HOSE X 32" LONG</i>
<i>4</i>	<i>1</i>	<i>700275</i>	<i>1-1/4" SCHEDULE 80 COUPLER</i>
<i>5</i>	<i>1</i>	<i>700273</i>	<i>NH3/B9500 METER W/ HYDRAULIC SHUT-OFF</i>
<i>6</i>	<i>1</i>	<i>700257</i>	<i>1" CLOSE NIPPLE - BLACK PIPE</i>
<i>7</i>	<i>1</i>	<i>700227</i>	<i>1" FNPT TEE - BLACK PIPE</i>
<i>8</i>	<i>2</i>	<i>700306</i>	<i>1" MNPT X 1" FNPT SWIVEL COUPLER</i>
<i>9</i>	<i>2</i>	<i>700274A</i>	<i>1" AA HOSE X 120" LONG</i>
<i>10</i>	<i>2</i>	<i>700256</i>	<i>1" ST. ELBOW - BLACK PIPE</i>
<i>11</i>	<i>2</i>	<i>700272</i>	<i>NH3 MANIFOLD - 14 OUTLET</i>
<i>-</i>	<i>2</i>	<i>700310</i>	<i>NH3 MANIFOLD - 18 OUTLET 27-34 SHANKS</i>
<i>-</i>	<i>2</i>	<i>700311</i>	<i>NH3 MANIFOLD - 24 OUTLET 35-39 SHANKS</i>
<i>12</i>	<i>AS REQ.</i>	<i>700277</i>	<i>1/4 MNPT X 3/8" HOSE BARB</i>
<i>-</i>	<i>AS REQ.</i>	<i>700208</i>	<i>1/4 MNPT X 1/2" HOSE BARB</i>
<i>-</i>	<i>AS REQ.</i>	<i>700312</i>	<i>1/8 MNPT X 3/8" HOSE BARB-18 & 24 OUTLET MAN.</i>
<i>13</i>	<i>AS REQ.</i>	<i>700211</i>	<i>1/4 MNPT X 1/2" MANIFOLD PLUG</i>
<i>-</i>	<i>AS REQ.</i>	<i>700313</i>	<i>1/8 MNPT X 1/2" MANIFOLD PLUG</i>
<i>14</i>	<i>2</i>	<i>400142</i>	<i>3/8 X 2 X 12-1/2" MANIFOLD BRACKET</i>
<i>15</i>	<i>2</i>	<i>101417</i>	<i>3/8-16 X 5 X 8-1/2" U-BOLT</i>
<i>16</i>	<i>2</i>	<i>101125</i>	<i>3/8-16 X 1" HEX BOLT</i>
<i>17</i>	<i>6</i>	<i>101220</i>	<i>3/8" LOCK WASHER</i>
<i>18</i>	<i>6</i>	<i>101211</i>	<i>3/8-16 HEX NUT</i>
<i>19</i>	<i>1</i>	<i>101152</i>	<i>1/2-13 X 3-1/2" HEX BOLT</i>
<i>20</i>	<i>2</i>	<i>101397</i>	<i>1/2-13 X 3/4" HEX BOLT</i>
<i>21</i>	<i>1</i>	<i>101231</i>	<i>1/2" FLAT WASHER</i>
<i>22</i>	<i>1</i>	<i>101222</i>	<i>1/2" LOCK WASHER</i>
<i>23</i>	<i>1</i>	<i>101213</i>	<i>1/2-13 HEX NUT</i>
<i>-</i>	<i>AS REQ.</i>	<i>700126</i>	<i>3/8 - 1/2" STAINLESS HOSE CLAMP</i>
<i>-</i>	<i>2</i>	<i>202230</i>	<i>1/4 X 1/4" MNPT X 1/2" MNPT X 270" HYD. HOSE</i>
<i>-</i>	<i>2</i>	<i>201061</i>	<i>1/4 MNPT X 1/4" FNPT SWIVEL 90°</i>

REVISED: 09/20/01

1300/1500 NH₃ PLUMBING SCHEMATIC
DUAL REGULATOR/DUAL MANIFOLD

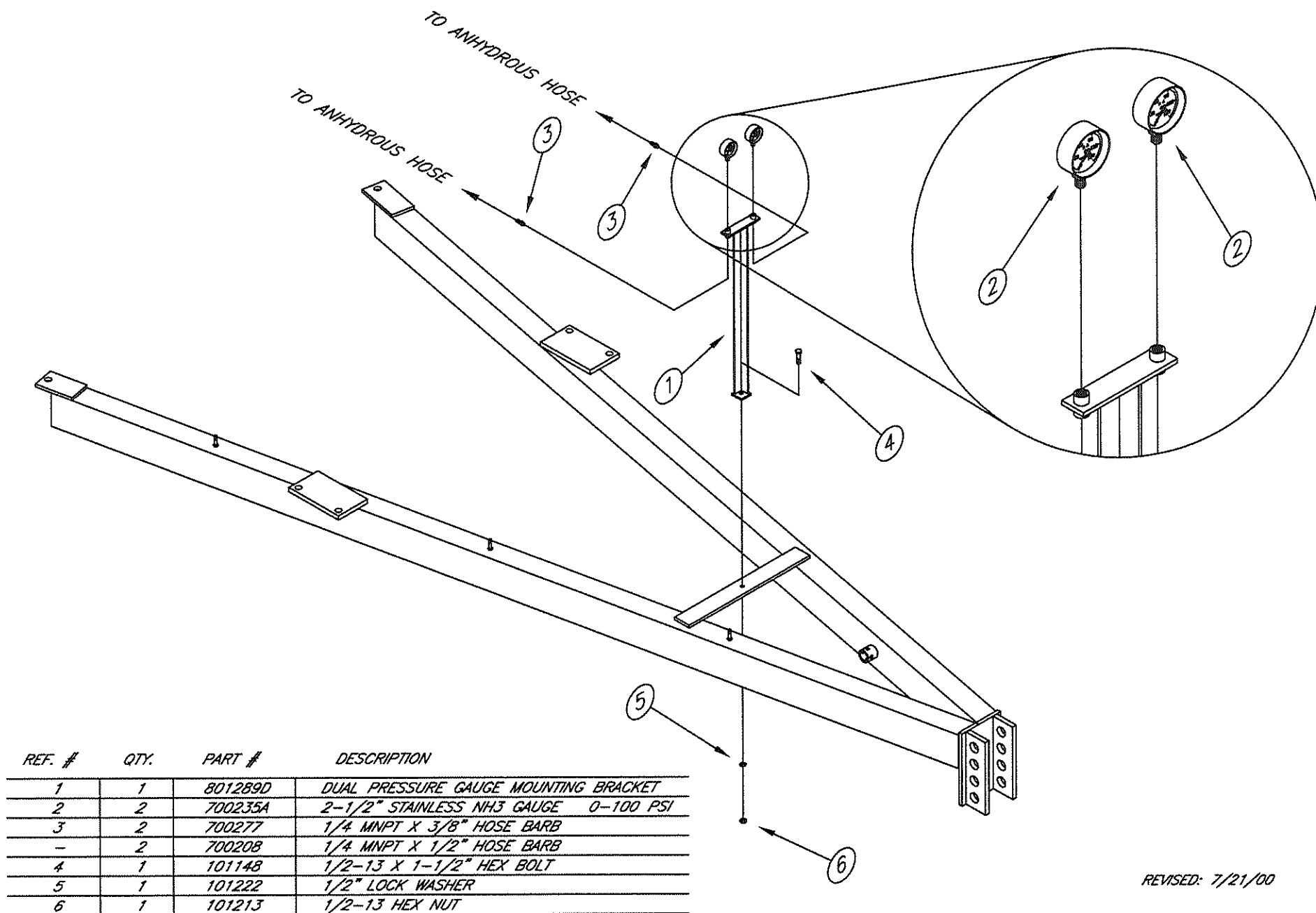


*1300/1500 NH3 PLUMBING SCHEMATIC
DUAL REGULATOR/DUAL MANIFOLD*

<i>REF. #</i>	<i>QTY.</i>	<i>PART #</i>	<i>DESCRIPTION</i>
<i>1</i>	<i>1</i>	<i>700278</i>	<i>1-1/4" MALE COUPLER TIP (NH3)</i>
<i>2</i>	<i>1</i>	<i>700276</i>	<i>1-1/4" QUICK COUPLER ASSEMBLY</i>
<i>3</i>	<i>1</i>	<i>700274</i>	<i>1-1/4" AA HOSE X 32" LONG</i>
<i>4</i>	<i>1</i>	<i>700255</i>	<i>1-1/4" TEE - BLACK PIPE</i>
<i>5</i>	<i>2</i>	<i>700273</i>	<i>NH3/B9500 METER W/ HYDRAULIC SHUT-OFF</i>
<i>6</i>	<i>2</i>	<i>700306</i>	<i>1" MNPT X 1" FNPT SWIVEL COUPLER</i>
<i>7</i>	<i>2</i>	<i>700274A</i>	<i>1" AA HOSE X 120" LONG</i>
<i>8</i>	<i>2</i>	<i>700256</i>	<i>1" ST. ELBOW - BLACK PIPE</i>
<i>9</i>	<i>2</i>	<i>700272</i>	<i>NH3 MANIFOLD - 14 OUTLET</i>
<i>-</i>	<i>2</i>	<i>700310</i>	<i>NH3 MANIFOLD - 18 OUTLET 27-34 SHANKS</i>
<i>-</i>	<i>2</i>	<i>700311</i>	<i>NH3 MANIFOLD - 24 OUTLET 35-39 SHANKS</i>
<i>10</i>	<i>AS REQ.</i>	<i>700277</i>	<i>1/4 MNPT X 3/8" HOSE BARB</i>
<i>-</i>	<i>AS REQ.</i>	<i>700208</i>	<i>1/4 MNPT X 1/2" HOSE BARB</i>
<i>-</i>	<i>AS REQ.</i>	<i>700312</i>	<i>1/8 MNPT X 3/8" HOSE BARB-18 & 24 OUTLET MAN.</i>
<i>11</i>	<i>AS REQ.</i>	<i>700211</i>	<i>1/4 MNPT X 1/2" MANIFOLD PLUG</i>
<i>-</i>	<i>AS REQ.</i>	<i>700313</i>	<i>1/8 MNPT X 1/2" MANIFOLD PLUG</i>
<i>12</i>	<i>2</i>	<i>400142</i>	<i>3/8 X 2 X 12-1/2" MANIFOLD BRACKET</i>
<i>13</i>	<i>2</i>	<i>101417</i>	<i>3/8-16 X 5 X 8-1/2" U-BOLT</i>
<i>14</i>	<i>4</i>	<i>101125</i>	<i>3/8-16 X 1" HEX BOLT</i>
<i>15</i>	<i>8</i>	<i>101220</i>	<i>3/8" LOCK WASHER</i>
<i>16</i>	<i>8</i>	<i>101211</i>	<i>3/8-16 HEX NUT</i>
<i>17</i>	<i>1</i>	<i>101152</i>	<i>1/2-13 X 3-1/2" HEX BOLT</i>
<i>18</i>	<i>2</i>	<i>101397</i>	<i>1/2-13 X 3/4" HEX BOLT</i>
<i>19</i>	<i>1</i>	<i>101231</i>	<i>1/2" FLAT WASHER</i>
<i>20</i>	<i>1</i>	<i>101222</i>	<i>1/2" LOCK WASHER</i>
<i>21</i>	<i>1</i>	<i>101213</i>	<i>1/2-13 HEX NUT</i>
<i>-</i>	<i>AS REQ.</i>	<i>700126</i>	<i>3/8 - 1/2" STAINLESS HOSE CLAMP</i>
<i>-</i>	<i>2</i>	<i>202249</i>	<i>1/4 X No. 6 MJIC X 6 FJIC X 20" HYD. HOSE</i>
<i>-</i>	<i>2</i>	<i>202154</i>	<i>1/4 X 1/4" MNPT X 1/2" MNPT X 276" HYD. HOSE</i>
<i>-</i>	<i>2</i>	<i>201061</i>	<i>1/4 MNPT X 1/4" FNPT SWIVEL 90"</i>
<i>-</i>	<i>2</i>	<i>201011</i>	<i>1/4 MNPT X No. 6 MJIC TEE</i>

REVISED: 7/26/00

DUAL GAUGE BRACKET ASSEMBLY

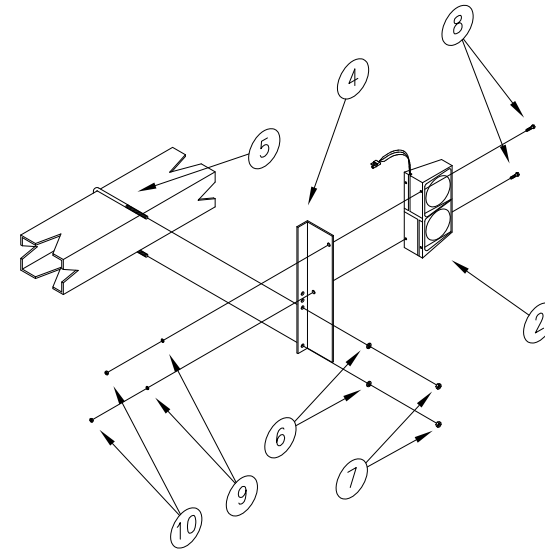
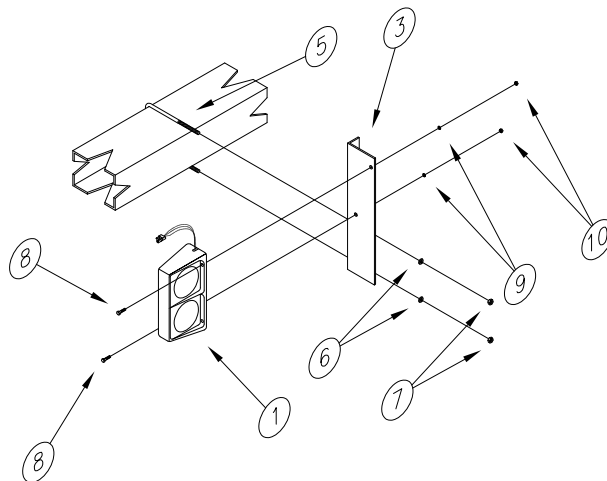


REVISED: 7/21/00

LIGHTING PACKAGE

REF. #	QTY.	PART #	DESCRIPTION
1	1	500015	RIGHT HAND LIGHT UNIT
2	1	500016	LEFT HAND LIGHT UNIT
3	1	76500038	RIGHT LIGHT MOUNTING BRACKET
4	1	76500039	LEFT LIGHT MOUNTING BRACKET
5	2	101417	3/8-16 X 5 X 8-1/2" U-BOLT
6	4	101220	3/8" LOCK WASHER
7	2	101211	3/8-16 HEX NUT
8	4	101102	1/4-20 X 1" HEX BOLT
9	4	101218	1/4" LOCK WASHER
10	4	101209	1/4-20 HEX NUT

THE RED AND YELLOW LIGHTS SHOULD BE VISIBLE FROM BEHIND THE IMPLEMENT. ONLY THE YELLOW LIGHT SHOULD BE VISIBLE FROM THE FRONT.



ATTACH LIGHT MOUNTING BRACKETS TO THE REAR TUBE OF THE INNER WING AS CLOSE TO THE MAINFRAME AS COULTER SPACING WILL ALLOW.

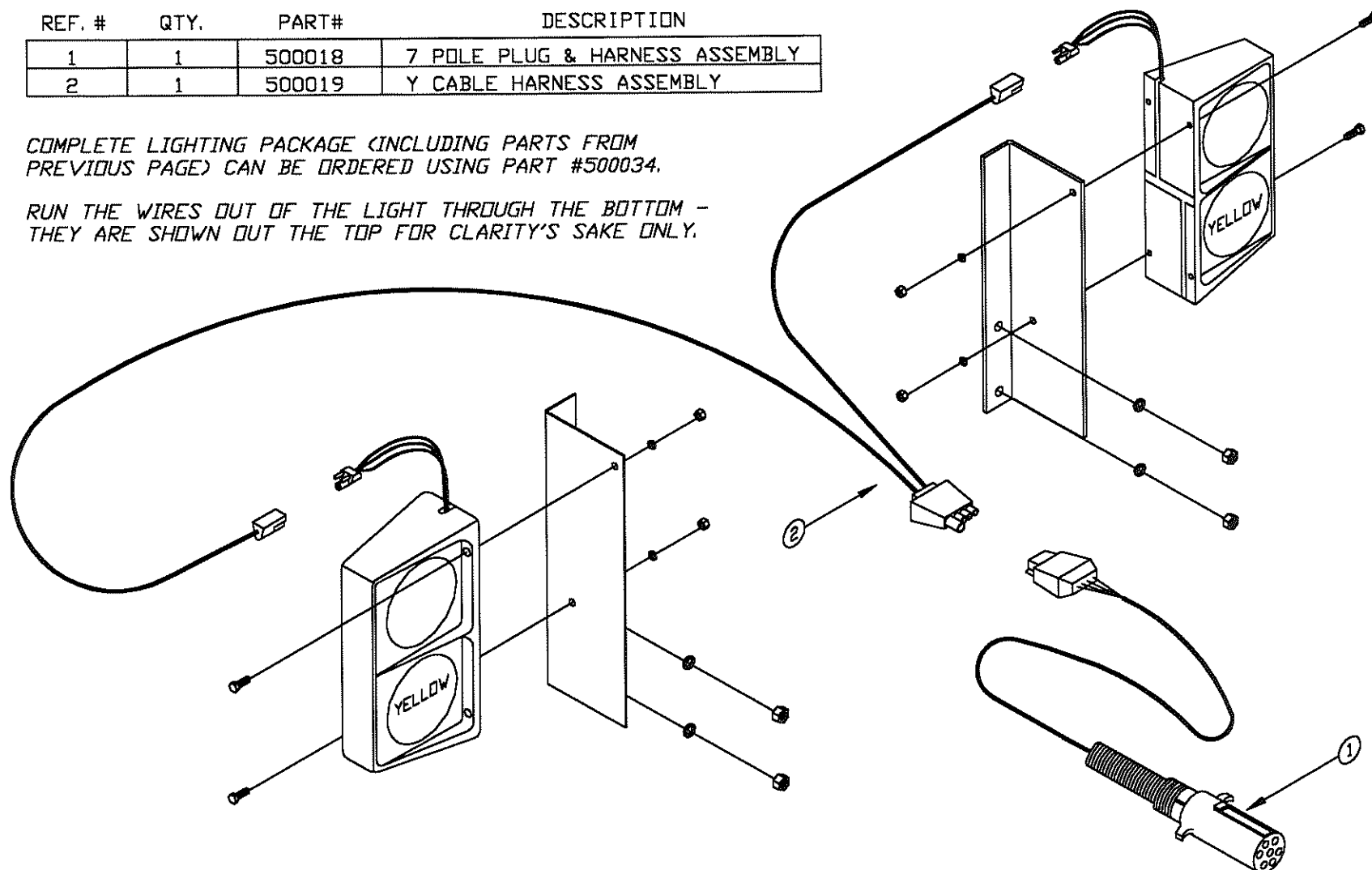
CONNECT Y CABLE TO THE RIGHT AND LEFT LIGHT UNITS AS SHOWN. THE GREEN, BROWN, AND WHITE WIRES CONNECT TO THE RIGHT LIGHT. THE YELLOW, BROWN, AND WHITE WIRES CONNECT TO THE LEFT LIGHT.

WHEN THE BAR IS FOLDED, THE YELLOW LIGHTS MUST BE ON THE OUTSIDE AND THE RED LIGHTS MUST BE ON THE INSIDE. WHEN UNFOLDED, THE YELLOW LIGHTS ARE ON THE BOTTOM.

REF. #	QTY.	PART#	DESCRIPTION
1	1	500018	7 POLE PLUG & HARNESS ASSEMBLY
2	1	500019	Y CABLE HARNESS ASSEMBLY

COMPLETE LIGHTING PACKAGE (INCLUDING PARTS FROM PREVIOUS PAGE) CAN BE ORDERED USING PART #500034.

RUN THE WIRES OUT OF THE LIGHT THROUGH THE BOTTOM - THEY ARE SHOWN OUT THE TOP FOR CLARITY'S SAKE ONLY.



HEAVY DUTY 4 BOLT HUB & SPINDLE

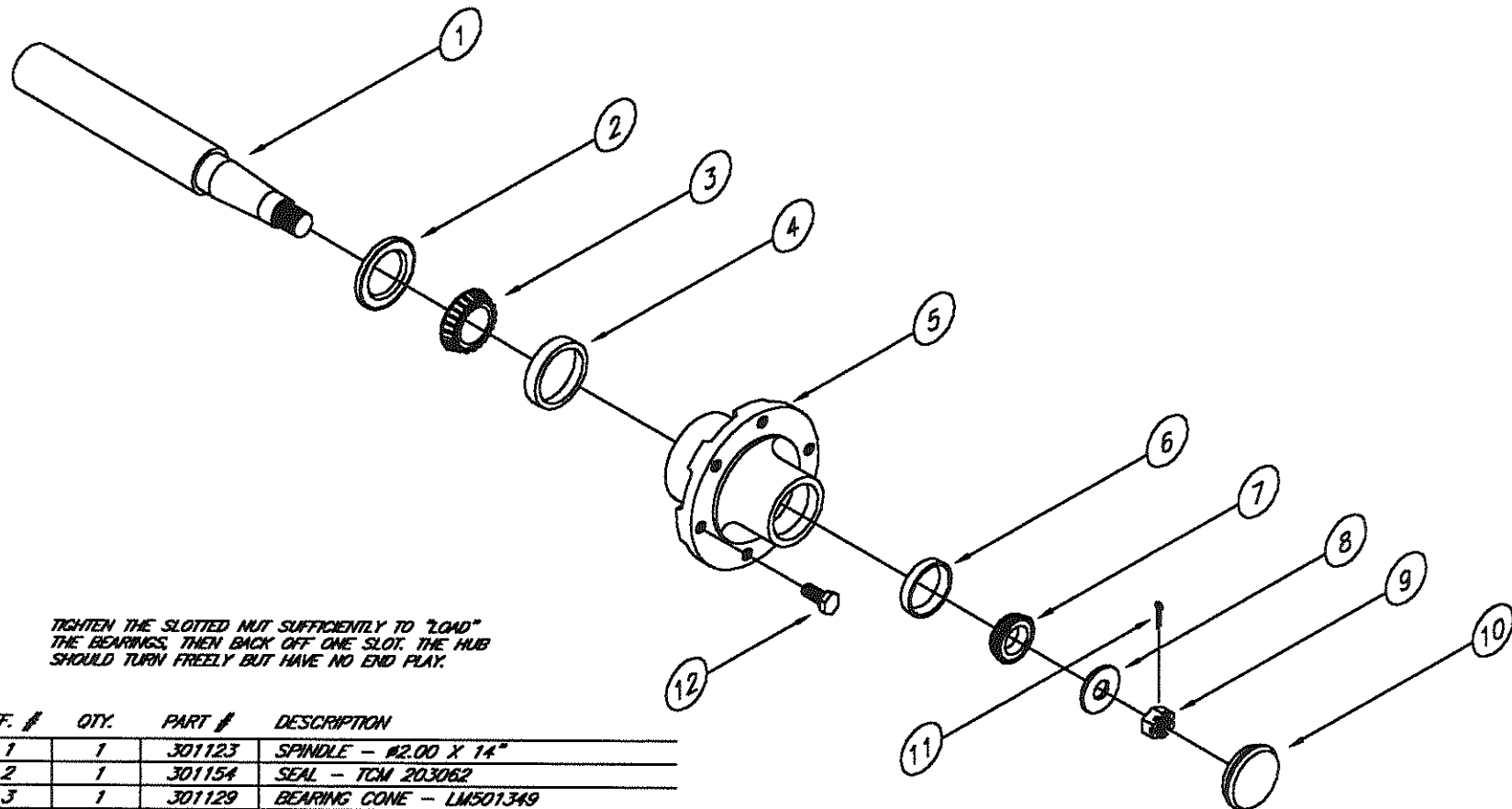
HUB ASSEMBLY COMPLETE INCLUDES:
 SEAL - 301183
 BEARING CONE - 301132
 BEARING CUP - 301134
 HUB - 301182
 BEARING CUP - 301184
 BEARING CONE - 301185
 DUST CAP - 301186
 LUG BOLTS - 301150 (4)

REF. #	QTY.	PART #	DESCRIPTION
1	1	301181	SPINDLE - #1.625" X 8.0"
2	1	301183	SEAL - CR 14975
3	1	301132	BEARING CONE - LM 67048
4	1	301134	BEARING CUP - LM 67010
5	1	301182	HUB - 4 BOLT W/ 5" BOLT CIRCLE
6	1	301184	BEARING CUP - LM 11910
7	1	301185	BEARING CONE - LM 11949
8	1	301142	THRUST WASHER - 1.5" O.D. X .8125" I.D.
9	1	301153	CASTELLATED NUT - 3/4-16 UNF
10	1	301152	COTTER PIN - 5/32" X 1-3/4"
11	1	301186	DUST CAP
12	4	301150	LUG BOLT - 1/2-20 UNF X 1"
13	1	301188	SPINDLE ASSEMBLY - COMPLETE
14	1	301187	HUB ASSEMBLY - COMPLETE

SPINDLE ASSEMBLY COMPLETE INCLUDES:
 SPINDLE - 301181
 WASHER - 301142
 CASTELLATED NUT - 301153
 COTTER PIN - 301152

REVISED 09/04/83

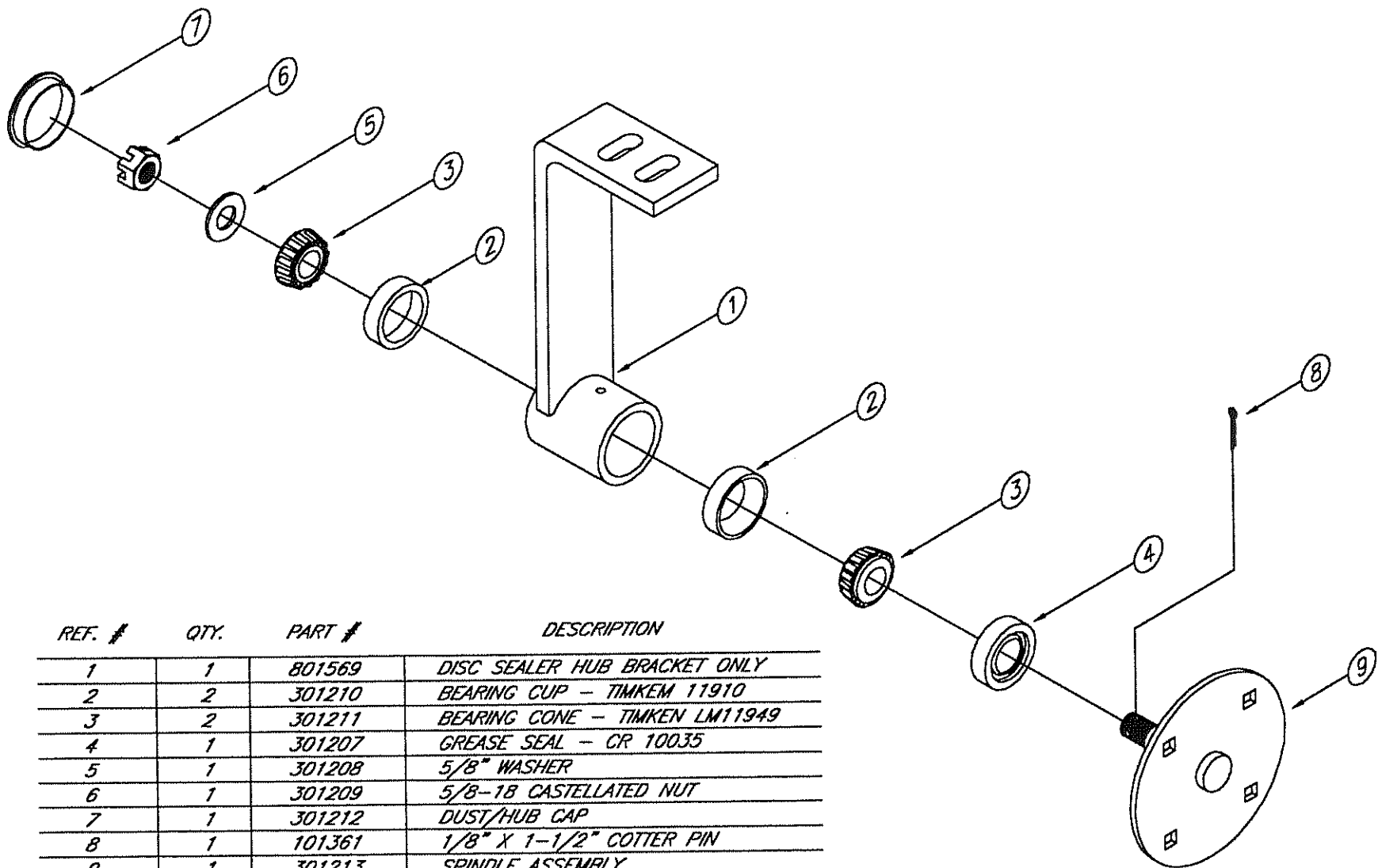
6 BOLT HUB & SPINDLE



TIGHTEN THE SLOTTED NUT SUFFICIENTLY TO "LOAD" THE BEARINGS. THEN BACK OFF ONE SLOT. THE HUB SHOULD TURN FREELY BUT HAVE NO END PLAY.

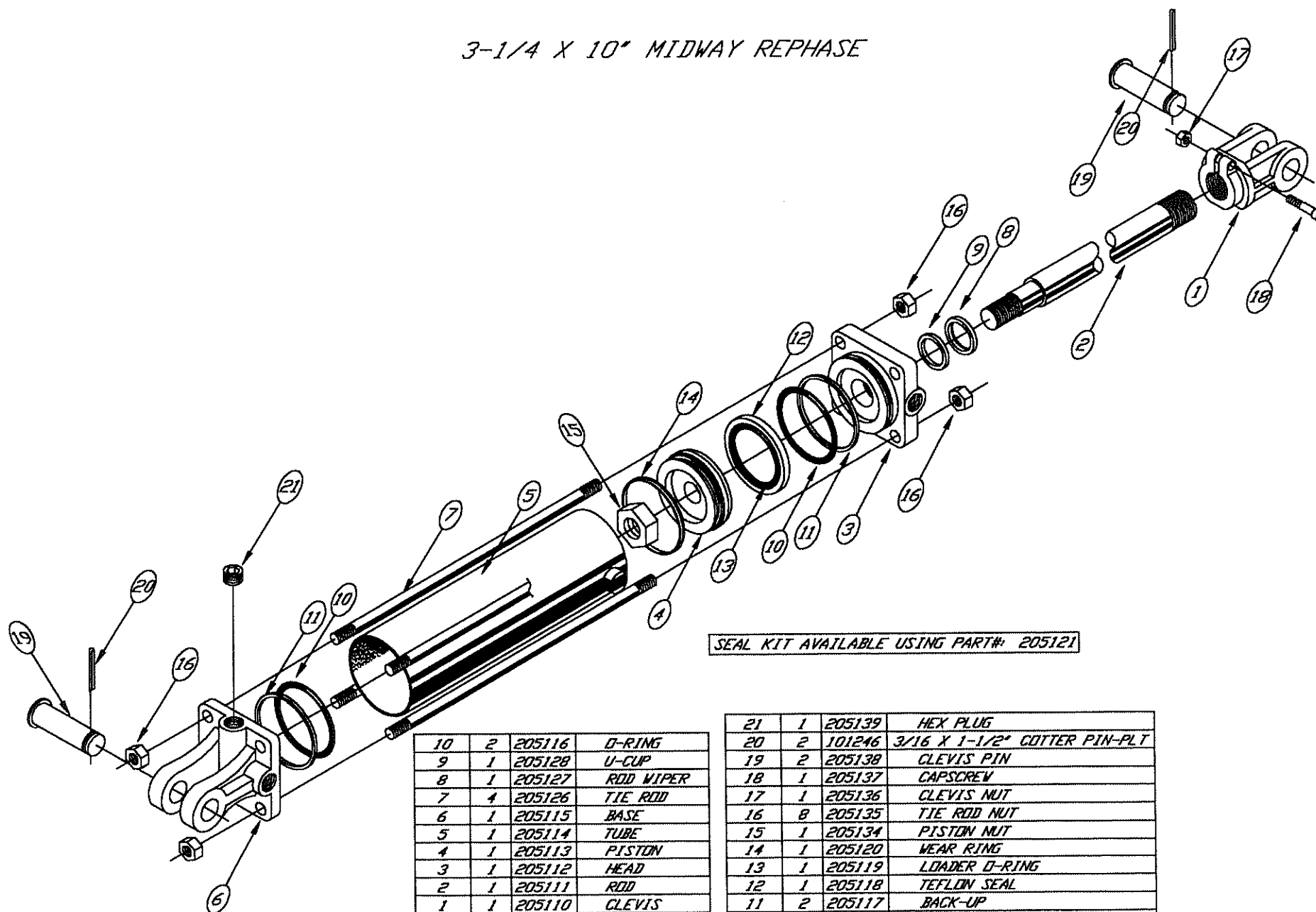
REF. #	QTY.	PART #	DESCRIPTION
1	1	301123	SPINDLE - #2.00 X 14"
2	1	301154	SEAL - TCM 203062
3	1	301129	BEARING CONE - LM501349
4	1	301135	BEARING CUP - LM501310
5	1	301126	6 BOLT HUB - 6" BOLT CIRCLE
6	1	301134	BEARING CUP - LM67010
7	1	301132	BEARING CONE - LM67048
8	1	301157	WASHER - 2" O.D. X 13/16" I.D.
9	1	301153	SLOTTED NUT - 3/4-16 UNF
10	1	301143	DUST CAP
11	1	101249	COTTER PIN - 5/32 X 1-3/4"
12	6	301151	LUG BOLT - 9/16-18 UNF X 1-1/8"
-	1	301164	SPINDLE ASSEMBLY - COMPLETE
-	1	301160	HUB ASSEMBLY - COMPLETE

DISC SEALER HUB ASSEMBLY



REF. #	QTY.	PART #	DESCRIPTION
1	1	801569	DISC SEALER HUB BRACKET ONLY
2	2	301210	BEARING CUP - TIMKEN 11910
3	2	301211	BEARING CONE - TIMKEN LM11949
4	1	301207	GREASE SEAL - CR 10035
5	1	301208	5/8" WASHER
6	1	301209	5/8-18 CASTELLATED NUT
7	1	301212	DUST/HUB CAP
8	1	101361	1/8" X 1-1/2" COTTER PIN
9	1	301213	SPINDLE ASSEMBLY

3-1/4 X 10" MIDWAY REPHASE

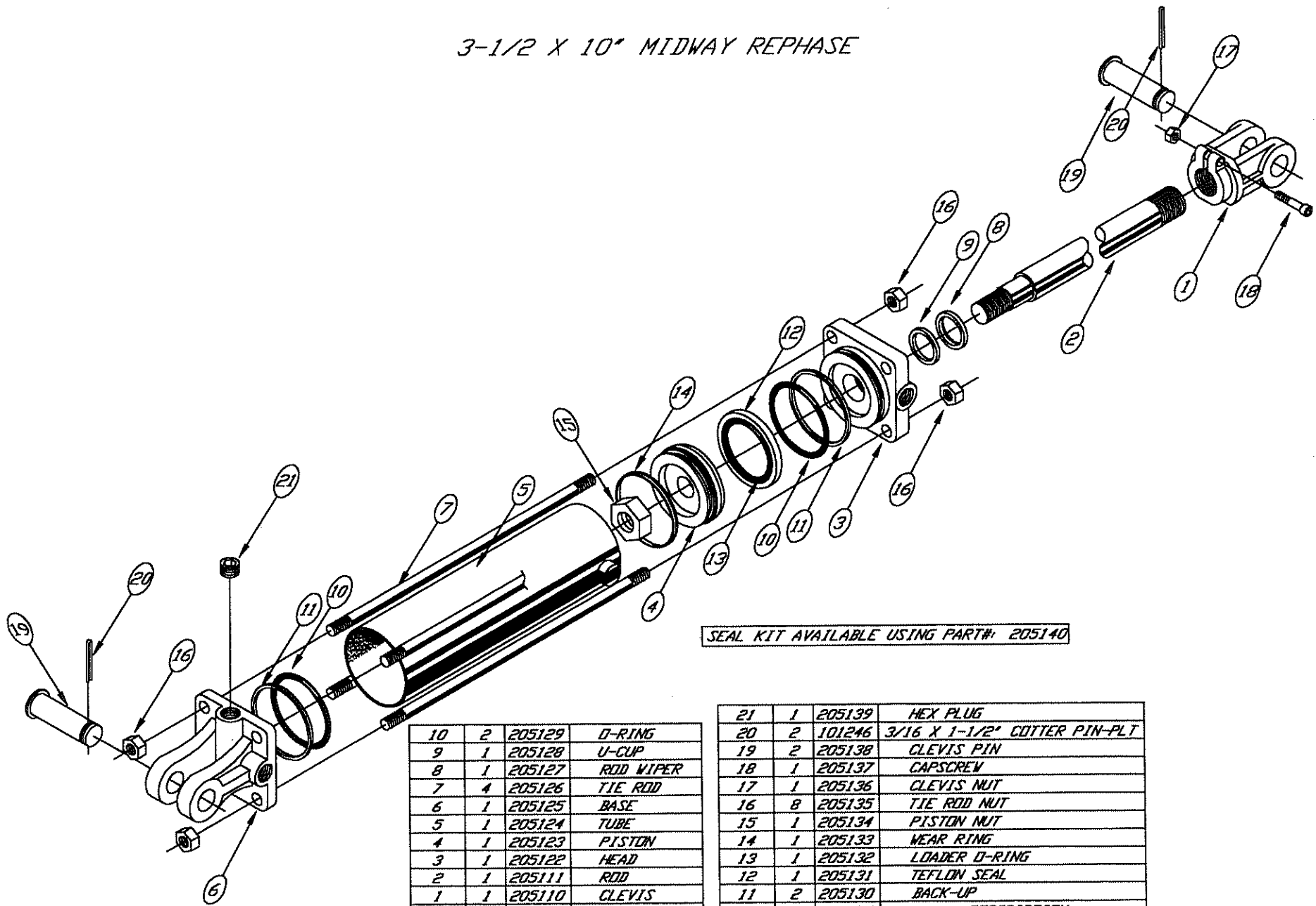


SEAL KIT AVAILABLE USING PART#: 205121

10	2	205116	O-RING
9	1	205128	U-CUP
8	1	205127	ROD WIPER
7	4	205126	TIE ROD
6	1	205115	BASE
5	1	205114	TUBE
4	1	205113	PISTON
3	1	205112	HEAD
2	1	205111	ROD
1	1	205110	CLEVIS
REF. #	QTY.	PART #	DESCRIPTION

21	1	205139	HEX PLUG
20	2	101246	3/16 X 1-1/2" COTTER PIN-PLT
19	2	205138	CLEVIS PIN
18	1	205137	CAPSCREW
17	1	205136	CLEVIS NUT
16	8	205135	TIE ROD NUT
15	1	205134	PISTON NUT
14	1	205120	WEAR RING
13	1	205119	LOADER O-RING
12	1	205118	TEFLON SEAL
11	2	205117	BACK-UP
REF. #	QTY.	PART #	DESCRIPTION

3-1/2 X 10" MIDWAY REPHASE

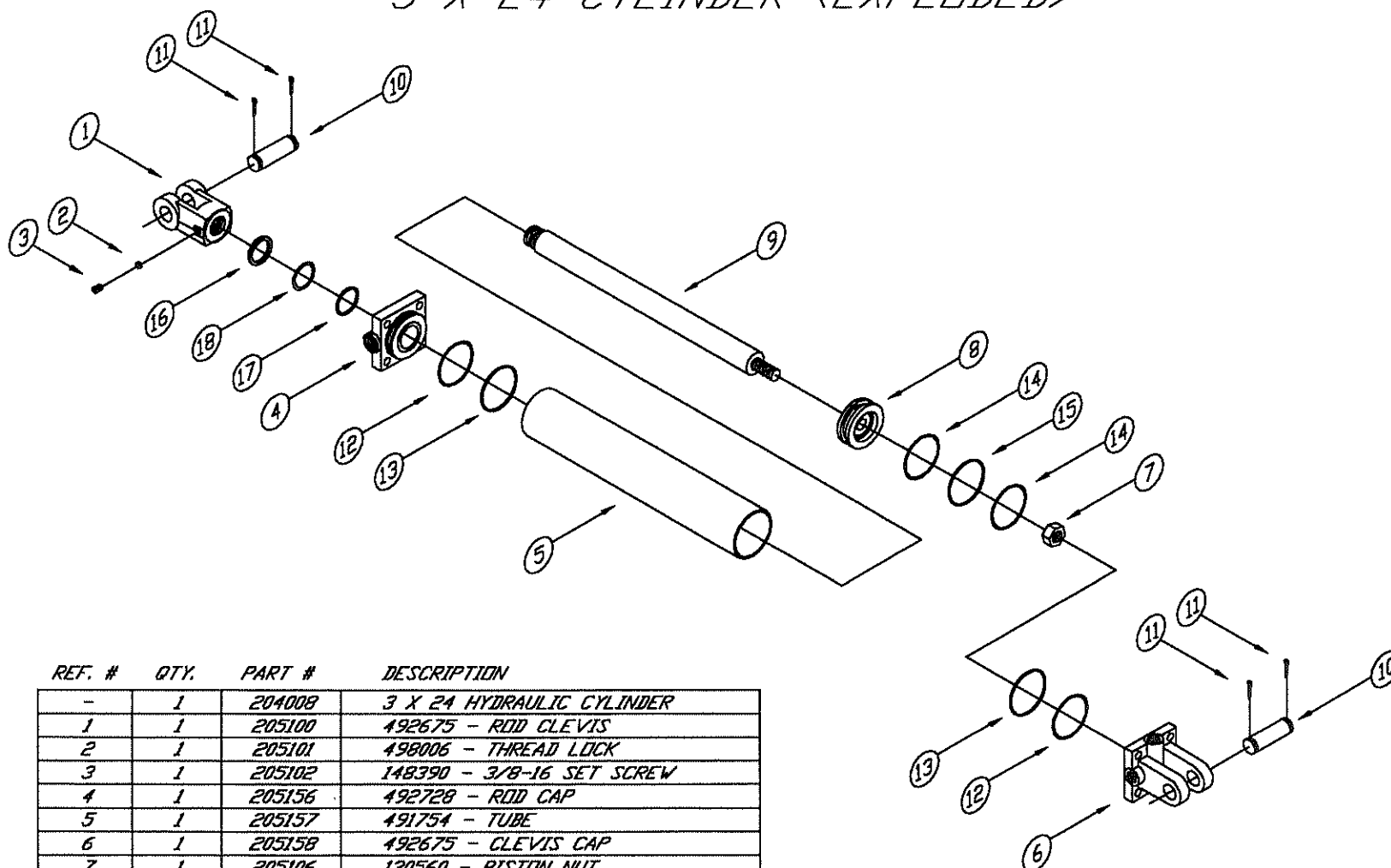


SEAL KIT AVAILABLE USING PART#: 205140

10	2	205129	O-RING
9	1	205128	U-CUP
8	1	205127	ROD WIPER
7	4	205126	TIE ROD
6	1	205125	BASE
5	1	205124	TUBE
4	1	205123	PISTON
3	1	205122	HEAD
2	1	205111	ROD
1	1	205110	CLEVIS
REF. #	QTY.	PART #	DESCRIPTION

21	1	205139	HEX PLUG
20	2	101246	3/16 X 1-1/2" COTTER PIN-PLT
19	2	205138	CLEVIS PIN
18	1	205137	CAPSCREW
17	1	205136	CLEVIS NUT
16	8	205135	TIE ROD NUT
15	1	205134	PISTON NUT
14	1	205133	WEAR RING
13	1	205132	LOADER O-RING
12	1	205131	TEFLON SEAL
11	2	205130	BACK-UP
REF. #	QTY.	PART #	DESCRIPTION

LION 3000 TC SERIES 3 X 24 CYLINDER (EXPLODED)



REF. #	QTY.	PART #	DESCRIPTION
-	1	204008	3 X 24 HYDRAULIC CYLINDER
1	1	205100	492675 - ROD CLEVIS
2	1	205101	498006 - THREAD LOCK
3	1	205102	148390 - 3/8-16 SET SCREW
4	1	205156	492728 - ROD CAP
5	1	205157	491754 - TUBE
6	1	205158	492675 - CLEVIS CAP
7	1	205106	130560 - PISTON NUT
8	1	205159	494719 - PISTON
9	1	205160	492631 - ROD
10	2	602136	#1" X 3-5/8" PLATED CYLINDER PIN
11	4	101266	#3/16" HAIRPIN
12	2	205017	#40 O-RING B.U.
13	2	205018	#10 O-RING
14	2	205019	#14 O-RING B.U.

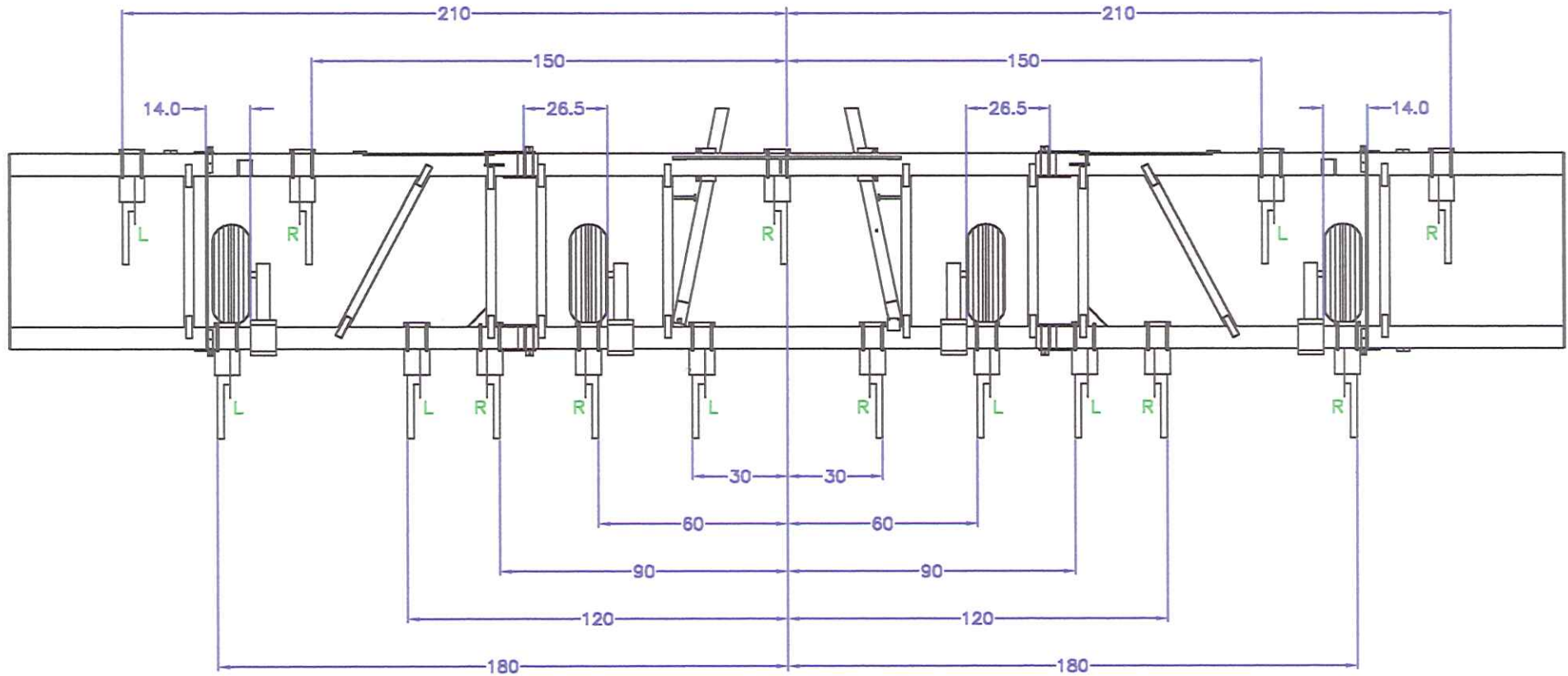
REF. #	QTY.	PART #	DESCRIPTION
15	1	205020	#12 O-RING
16	1	205021	#13 WIPER
17	1	205022	#11 ROD O-RING
18	1	205023	#24 ROD B.U.
-	1	205016	SEAL KIT COMPLETE

*1500 COLTER SPACING
30" ROWS WITH STANDARD
WHEEL CONFIGURATION - 15 SHANK*

NOTE: WHEN USING OPTIONAL AUTORESET SHANKS, CONFIGURATION SHOWN MAY RESULT IN STRUCTURAL DAMAGE. TO AVOID THIS, CHECK ALL DISC SEALERS FOR CLEARANCE WHEN SHANK IS IN THE "TRIPPED" POSITION. AS NEEDED, RELOCATE SHANKS FROM THE FRONT BAR TO THE REAR BAR TO AVOID CLEARANCE PROBLEMS.

ALL WHEEL DIMENSIONS ARE TAKEN FROM THE END OF THE WING TO THE EDGE OF THE BRACKET.

ALL COLTER DIMENSIONS ARE TAKEN FROM THE MIDDLE OF THE BAR TO THE CENTER OF THE COLTER.

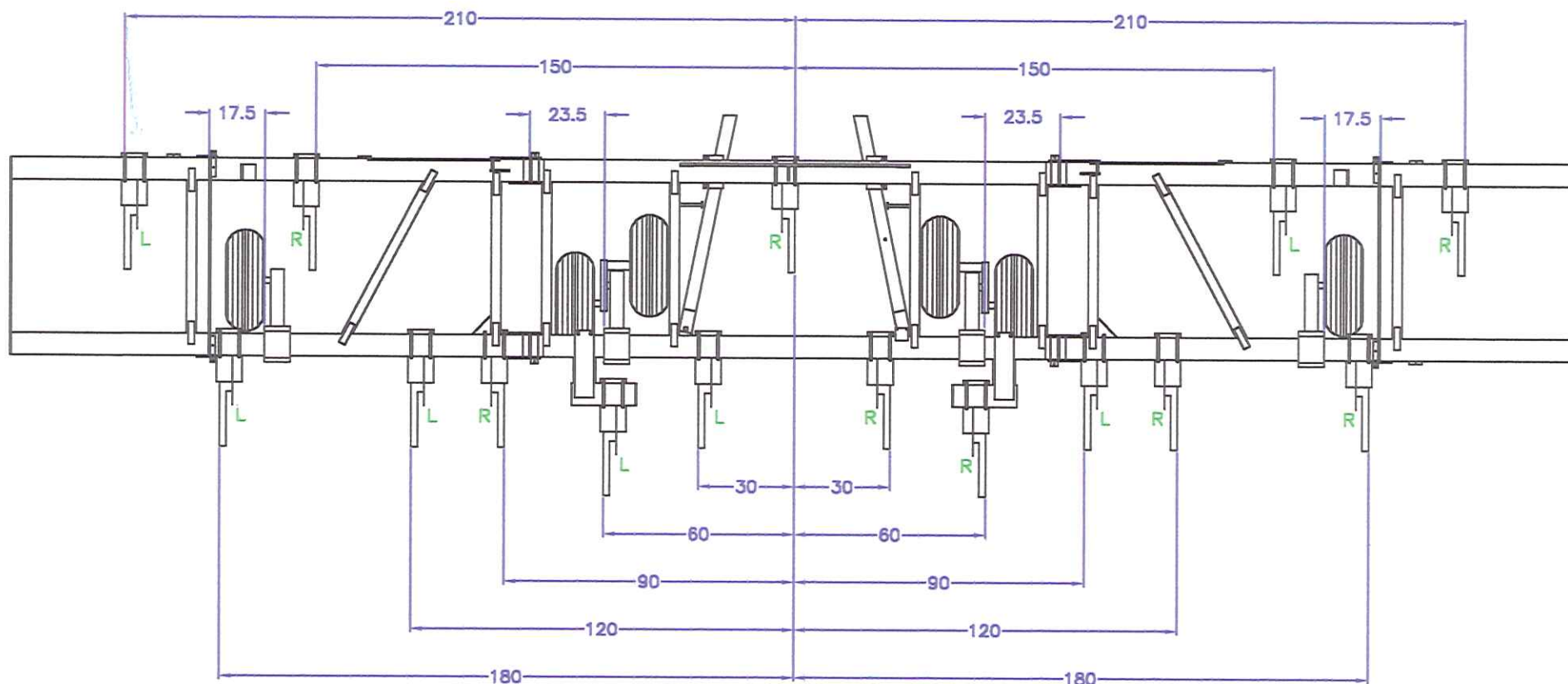


*1500 COLTER SPACING
30" ROWS WITH TANDEM/SINGLE
WHEEL OPTION - 15 SHANK*

NOTE: WHEN USING OPTIONAL AUTORESET SHANKS, CONFIGURATION SHOWN MAY RESULT IN STRUCTURAL DAMAGE. TO AVOID THIS, CHECK ALL DISC SEALERS FOR CLEARANCE WHEN SHANK IS IN THE "TRIPPED" POSITION. AS NEEDED, RELOCATE SHANKS FROM THE FRONT BAR TO THE REAR BAR TO AVOID CLEARANCE PROBLEMS.

ALL WHEEL DIMENSIONS ARE TAKEN FROM THE END OF THE WING TO THE EDGE OF THE BRACKET.

ALL COLTER DIMENSIONS ARE TAKEN FROM THE MIDDLE OF THE BAR TO THE CENTER OF THE COLTER.

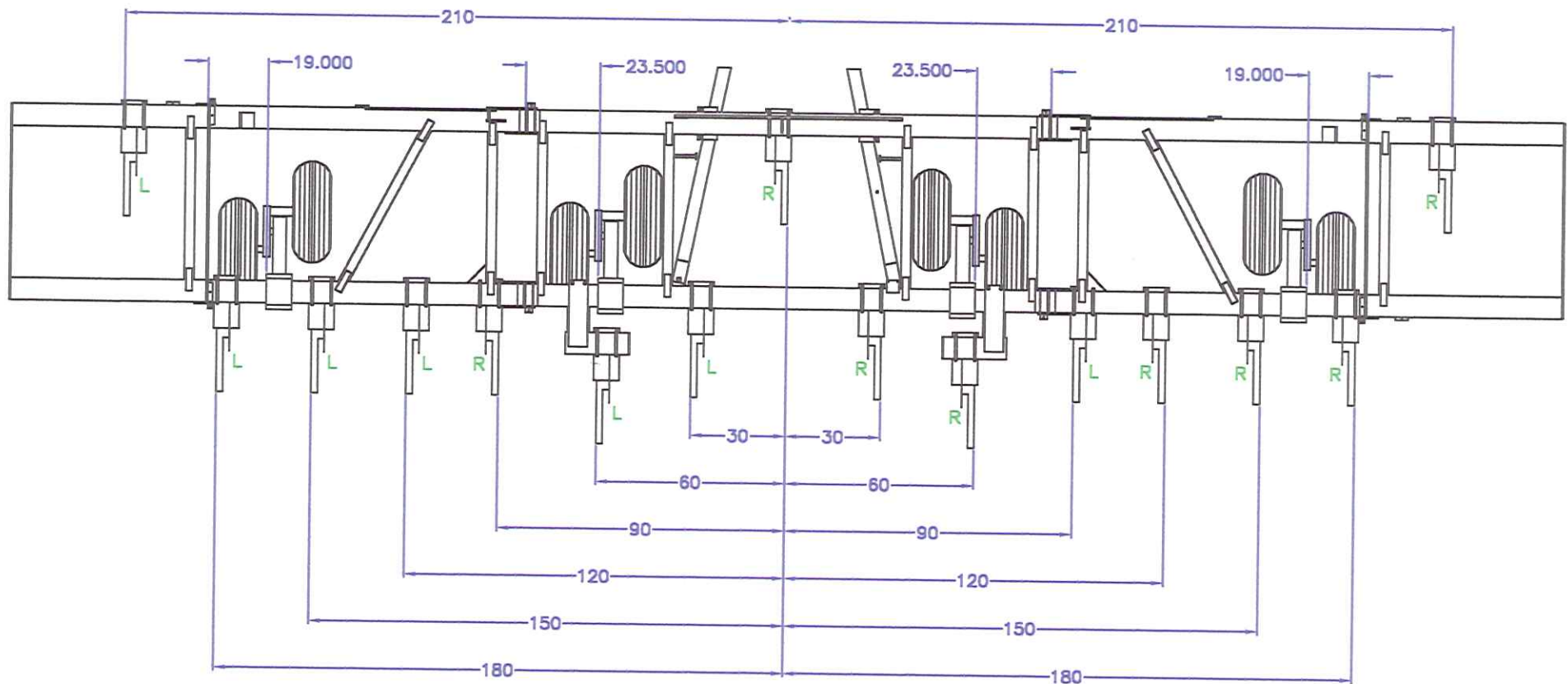


1500 COLTER ROW SPACING
30" ROWS WITH TANDEM/TANDEM
WHEEL OPTION - 15 SHANK

NOTE: WHEN USING OPTIONAL AUTORESET SHANKS, CONFIGURATION SHOWN MAY RESULT IN STRUCTURAL DAMAGE. TO AVOID THIS, CHECK ALL DISC SEALERS FOR CLEARANCE WHEN SHANK IS IN THE "TRIPPED" POSITION. AS NEEDED, RELOCATE SHANKS FROM THE FRONT BAR TO THE REAR BAR TO AVOID CLEARANCE PROBLEMS.

ALL WHEEL DIMENSIONS ARE TAKEN FROM THE END OF THE WING TO THE EDGE OF THE BRACKET.

ALL COLTER DIMENSIONS ARE TAKEN FROM THE MIDDLE OF THE BAR TO THE CENTER OF THE COLTER.

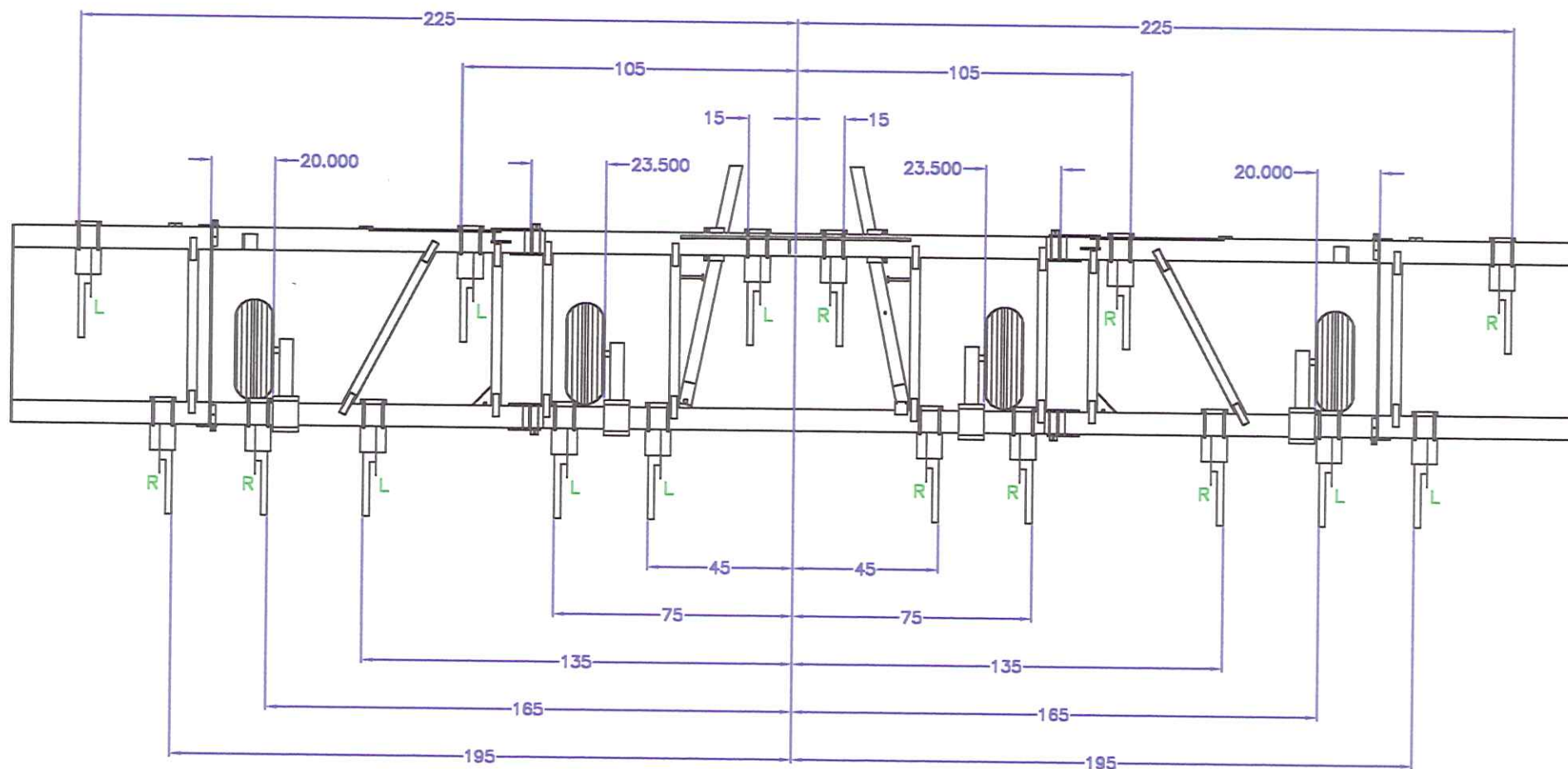


*1500 COLTER SPACING
30" ROWS WITH STANDARD
WHEEL CONFIGURATION - 16 SHANK*

NOTE: WHEN USING OPTIONAL AUTORESET SHANKS, CONFIGURATION SHOWN MAY RESULT IN STRUCTURAL DAMAGE. TO AVOID THIS, CHECK ALL DISC SEALERS FOR CLEARANCE WHEN SHANK IS IN THE "TRIPPED" POSITION. AS NEEDED, RELOCATE SHANKS FROM THE FRONT BAR TO THE REAR BAR TO AVOID CLEARANCE PROBLEMS.

ALL WHEEL DIMENSIONS ARE TAKEN FROM THE END OF THE WING TO THE EDGE OF THE BRACKET.

ALL COLTER DIMENSIONS ARE TAKEN FROM THE MIDDLE OF THE BAR TO THE CENTER OF THE COLTER.

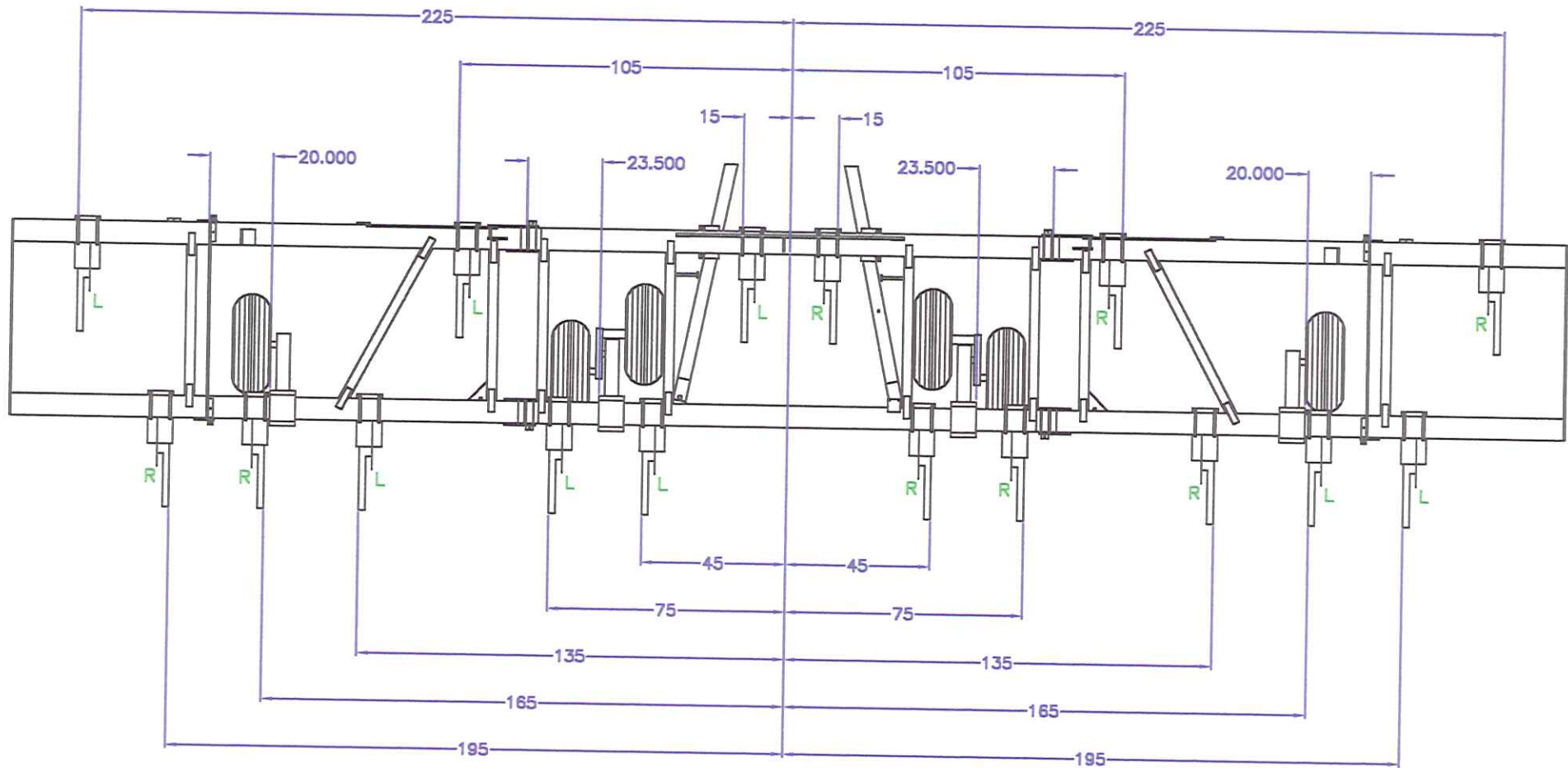


1500 COLTER SPACING
30" ROWS WITH TANDEM/SINGLE
WHEEL OPTION - 16 SHANK

NOTE: WHEN USING OPTIONAL AUTORESET SHANKS, CONFIGURATION SHOWN MAY RESULT IN STRUCTURAL DAMAGE. TO AVOID THIS, CHECK ALL DISC SEALERS FOR CLEARANCE WHEN SHANK IS IN THE "TRIPPED" POSITION. AS NEEDED, RELOCATE SHANKS FROM THE FRONT BAR TO THE REAR BAR TO AVOID CLEARANCE PROBLEMS.

ALL WHEEL DIMENSIONS ARE TAKEN FROM THE END OF THE WING TO THE EDGE OF THE BRACKET.

ALL COLTER DIMENSIONS ARE TAKEN FROM THE MIDDLE OF THE BAR TO THE CENTER OF THE COLTER.

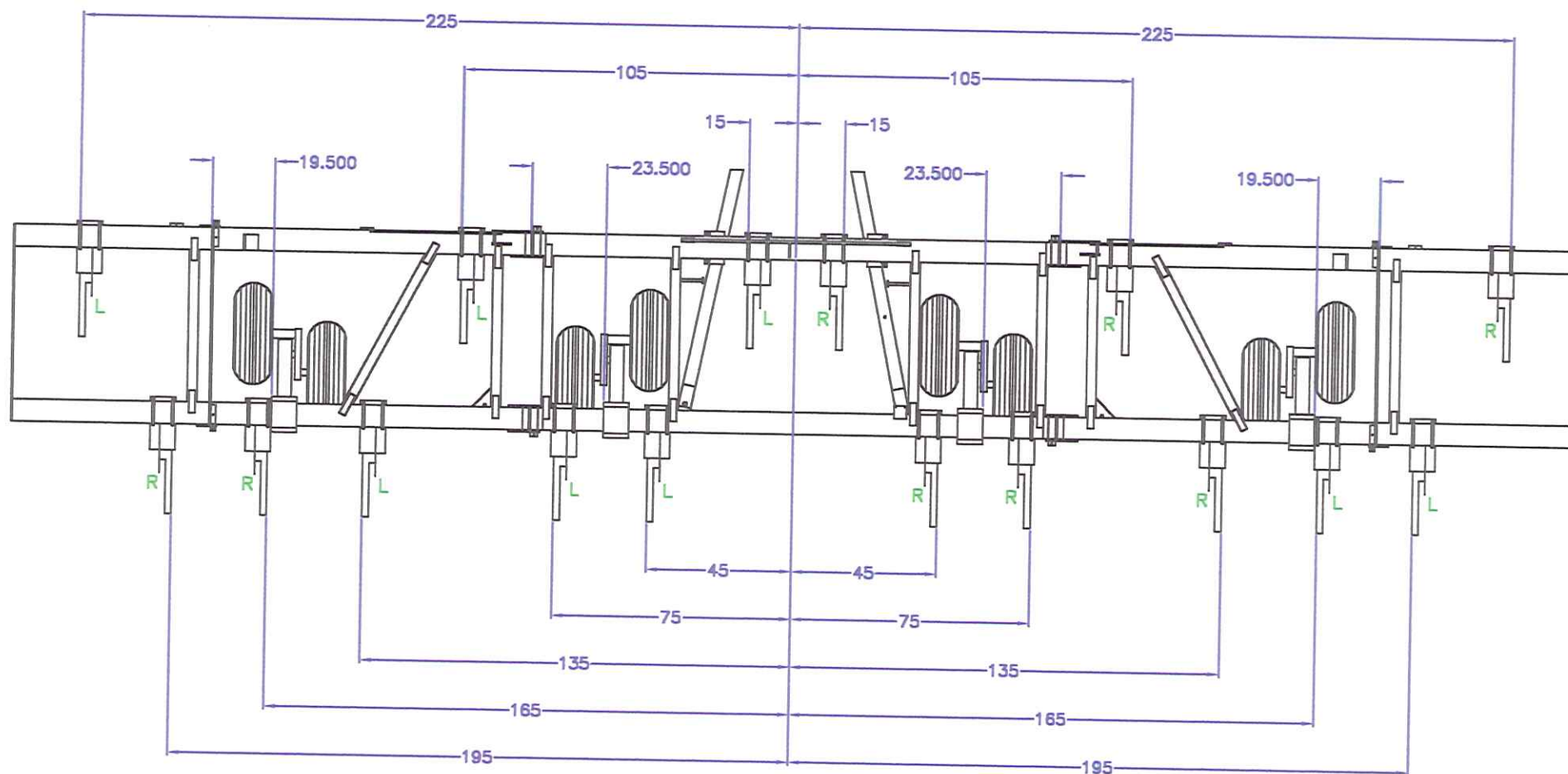


*1500 COLTER SPACING
30" ROWS WITH TANDEM/TANDEM
WHEEL OPTION - 16 SHANK*

NOTE: WHEN USING OPTIONAL AUTORESET SHANKS, CONFIGURATION SHOWN MAY RESULT IN STRUCTURAL DAMAGE. TO AVOID THIS, CHECK ALL DISC SEALERS FOR CLEARANCE WHEN SHANK IS IN THE "TRIPPED" POSITION. AS NEEDED, RELOCATE SHANKS FROM THE FRONT BAR TO THE REAR BAR TO AVOID CLEARANCE PROBLEMS.

ALL WHEEL DIMENSIONS ARE TAKEN FROM THE END OF THE WING TO THE EDGE OF THE BRACKET.

ALL COLTER DIMENSIONS ARE TAKEN FROM THE MIDDLE OF THE BAR TO THE CENTER OF THE COLTER.

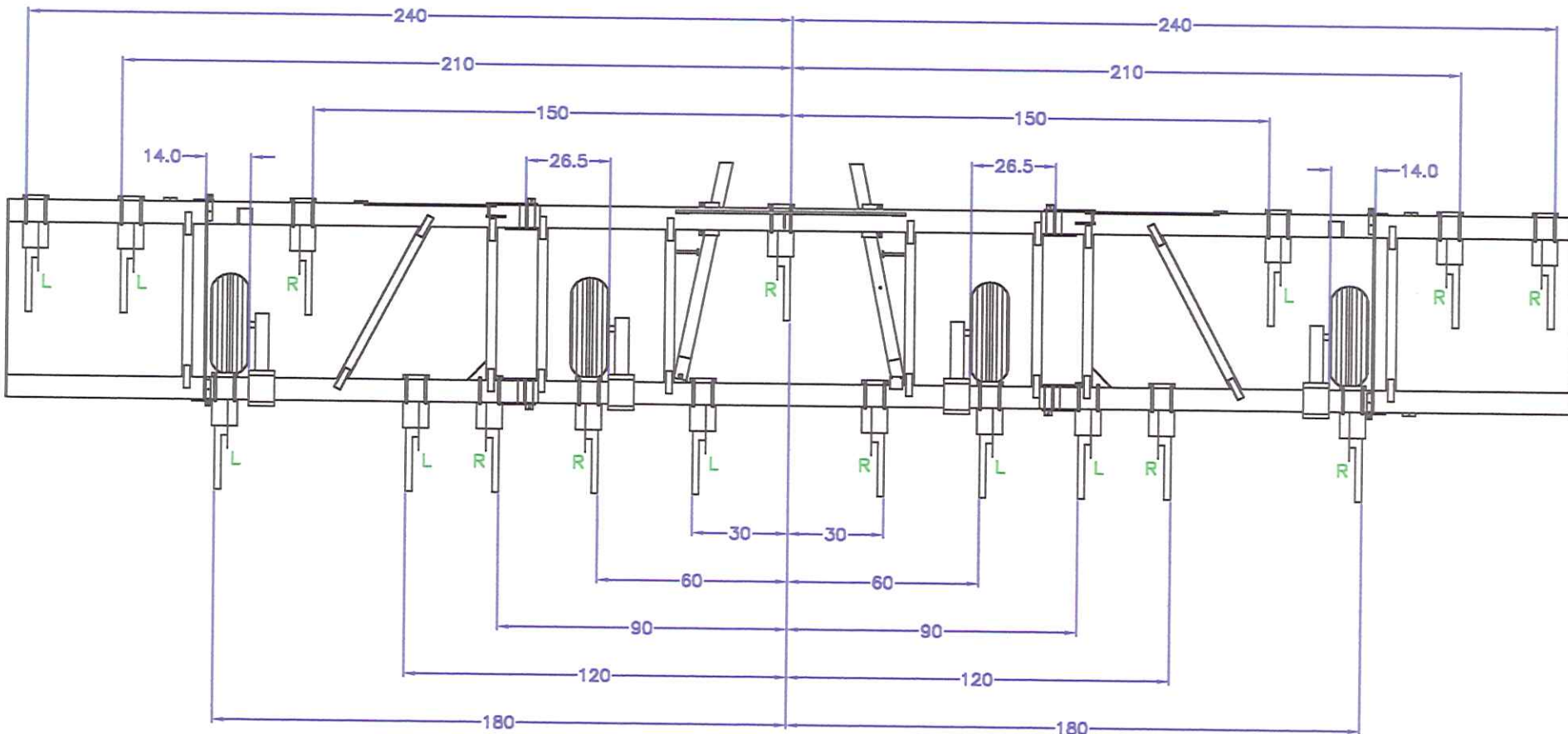


1500 COLTER SPACING
30" ROWS WITH STANDARD
WHEEL CONFIGURATION - 17 SHANK

NOTE: WHEN USING OPTIONAL AUTORESET SHANKS, CONFIGURATION SHOWN MAY RESULT IN STRUCTURAL DAMAGE. TO AVOID THIS, CHECK ALL DISC SEALERS FOR CLEARANCE WHEN SHANK IS IN THE "TRIPPED" POSITION. AS NEEDED, RELOCATE SHANKS FROM THE FRONT BAR TO THE REAR BAR TO AVOID CLEARANCE PROBLEMS.

ALL WHEEL DIMENSIONS ARE TAKEN FROM THE
END OF THE WING TO THE EDGE OF THE BRACKET.

ALL COLTER DIMENSIONS ARE TAKEN FROM THE MIDDLE OF THE BAR TO THE CENTER OF THE COLTER.

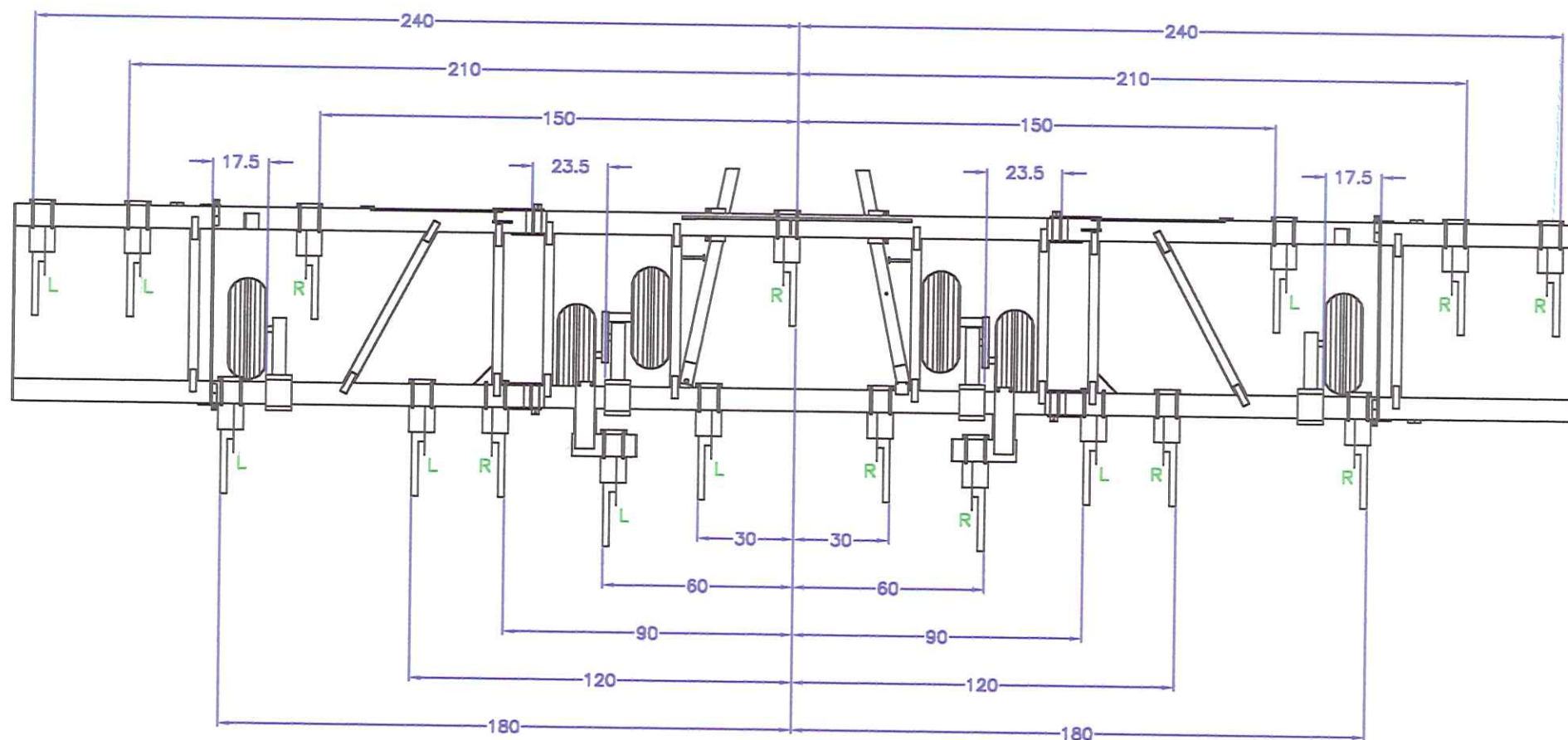


*1500 COLTER SPACING
30" ROWS WITH TANDEM/SINGLE
WHEEL OPTION - 17 SHANK*

NOTE: WHEN USING OPTIONAL AUTORESET SHANKS, CONFIGURATION SHOWN MAY RESULT IN STRUCTURAL DAMAGE. TO AVOID THIS, CHECK ALL DISC SEALERS FOR CLEARANCE WHEN SHANK IS IN THE "TRIPPED" POSITION. AS NEEDED, RELOCATE SHANKS FROM THE FRONT BAR TO THE REAR BAR TO AVOID CLEARANCE PROBLEMS.

ALL WHEEL DIMENSIONS ARE TAKEN FROM THE END OF THE WING TO THE EDGE OF THE BRACKET.

ALL COLTER DIMENSIONS ARE TAKEN FROM THE MIDDLE OF THE BAR TO THE CENTER OF THE COLTER.

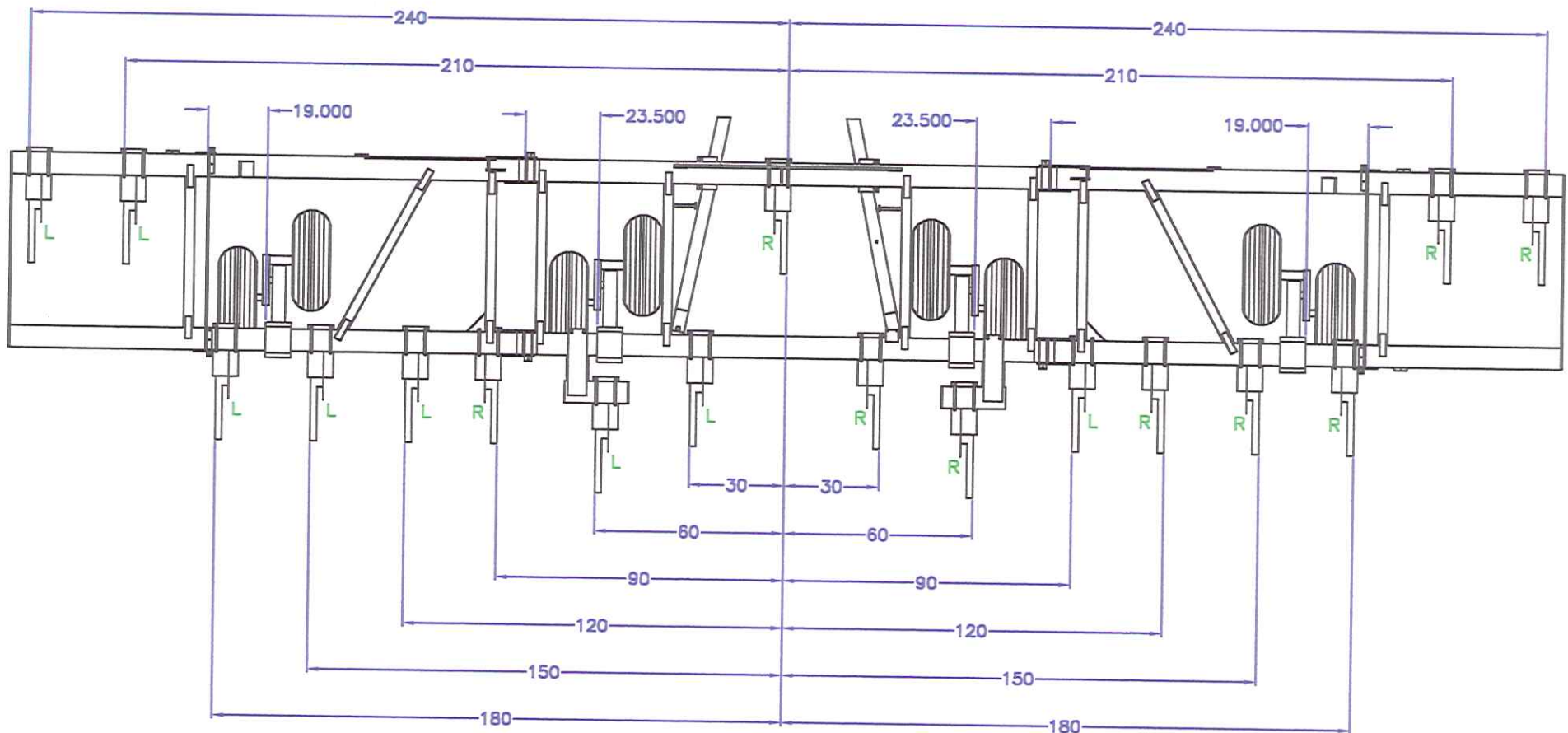


1500 COLTER ROW SPACING
30" ROWS WITH TANDEM/TANDEM
WHEEL OPTION - 17 SHANK

NOTE: WHEN USING OPTIONAL AUTORESET SHANKS, CONFIGURATION SHOWN MAY RESULT IN STRUCTURAL DAMAGE. TO AVOID THIS, CHECK ALL DISC SEALERS FOR CLEARANCE WHEN SHANK IS IN THE "TRIPPED" POSITION. AS NEEDED, RELOCATE SHANKS FROM THE FRONT BAR TO THE REAR BAR TO AVOID CLEARANCE PROBLEMS.

ALL WHEEL DIMENSIONS ARE TAKEN FROM THE END OF THE WING TO THE EDGE OF THE BRACKET.

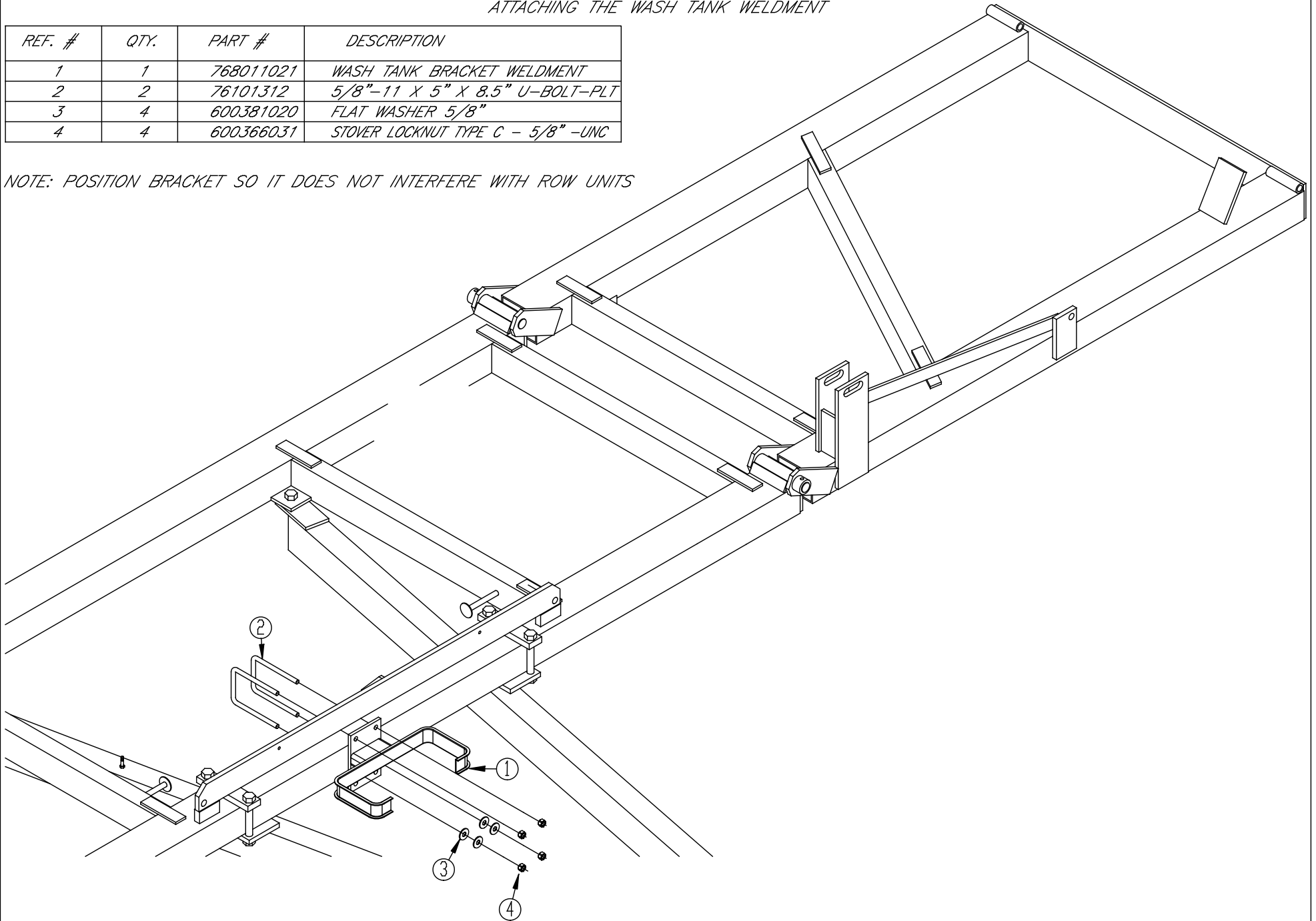
ALL COLTER DIMENSIONS ARE TAKEN FROM THE MIDDLE OF THE BAR TO THE CENTER OF THE COLTER.



ATTACHING THE WASH TANK WELDMENT

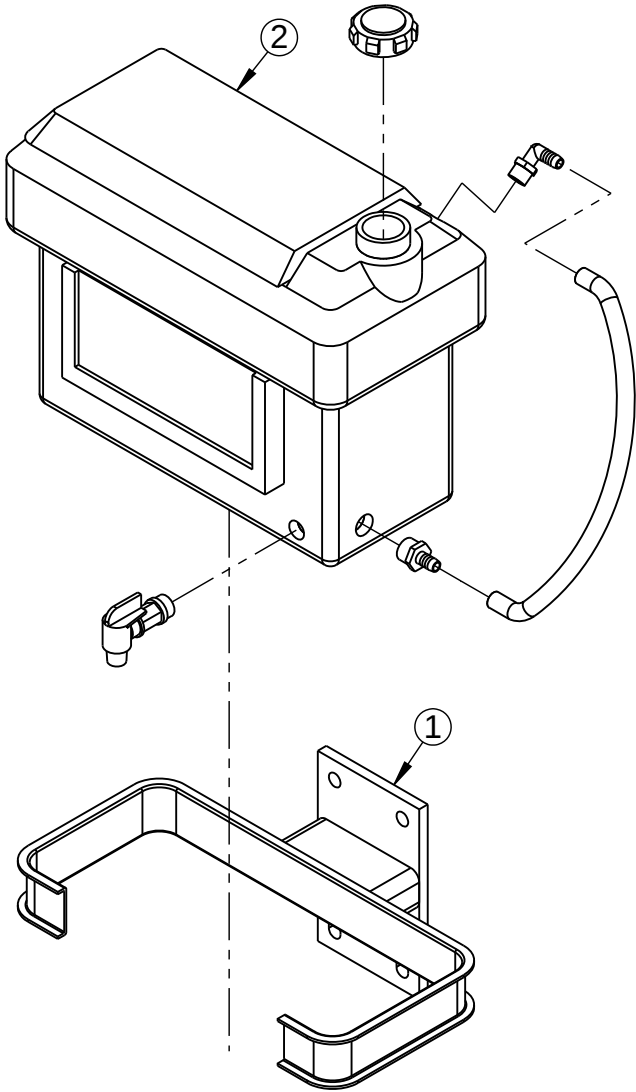
REF. #	QTY.	PART #	DESCRIPTION
1	1	768011021	WASH TANK BRACKET WELDMENT
2	2	76101312	5/8"-11 X 5" X 8.5" U-BOLT-PLT
3	4	600381020	FLAT WASHER 5/8"
4	4	600366031	STOVER LOCKNUT TYPE C - 5/8" -UNC

NOTE: POSITION BRACKET SO IT DOES NOT INTERFERE WITH ROW UNITS



ATTACHING THE WASH TANK

ITEM NO.	PART NUMBER	Description1	QTY.
1	768011021	WASH TANK BRACKET WELDMENT	1
2	767500030	WASH TANK - COMPLETE	1





Progressive Farm Products



19500 N 1425 East Road • Hudson, IL 61748-9450 • (309) 454-1564 • FAX (309) 452-1610

WARRANTY

Main Frame, Wings, Wheel Supports Three (3) Years
All Other Components, except tires One (1) Year

Progressive Farm Products Inc. (PFP, Inc.) warrants each new PFP, Inc. product to be free from defects in material and workmanship. This warranty is in effect from the date of delivery to the original purchaser and is applicable only for the normal life expectancy of the machine or components, not to exceed the time periods listed above. Tires on PFP, Inc. equipment are warranted through the respective tire manufacturer. Contact a dealer of the manufacturer in your local area.

Under no circumstances will it cover any merchandise or components thereof which, in the opinion of the company, has been subjected to negligent handling, misuse, alternation, an accident, or if repairs have been made with parts other than those obtainable through PFP, Inc.

Our obligation under this warranty shall be limited to repairing or replacing, free of charge to the original purchaser any part that in our judgement shall show evidence of such defect, provided further that such part shall be returned within thirty (30) days from date of failure to PFP, Inc. through a dealer from whom the purchase was made, transportation charges prepaid.

This warranty shall not be interpreted to render us liable for injury or damages of any kind of nature, direct, consequential, or contingent to person or property. This warranty does not extend to loss of crops, loss because of delay or any expense of loss incurred for labor, supplies, substitute machinery, rental, or for any other reason.

There are no warranties, either expressed or implied, of merchantability of fitness for particular purpose intended or fitness for any other reason.

This warranty is subject to any existing conditions of supply, which may directly affect our ability to obtain materials or manufacture replacement parts.

PFP, Inc. reserves the right to make improvements in design or changes in specifications at any time without incurring any obligations to owners of units previously sold.

No one is authorized to alter, modify, or enlarge this warranty nor the exclusions, limitations, and reservations.

**Progressive Farm Products Warranty does not include
cost of travel time, mileage, hauling, or labor.**