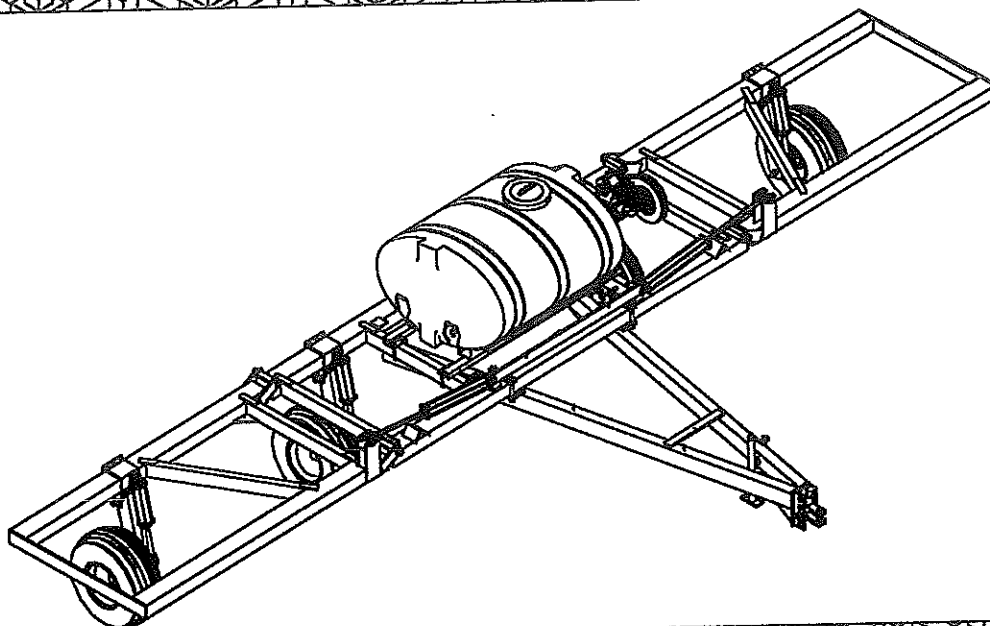




PROGRESSIVE
FARM PRODUCTS, INC.

OPERATOR'S MANUAL
1300 TWIN FRAME
DUAL PLACEMENT TOOLBAR



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Introduction

The purpose of this manual is to assist in the assembly, operation, and maintenance of your Model 1300 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

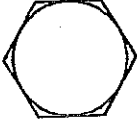
Always use proper safety precautions and common sense. Set a good example and show your workers how to work safely, be an example, not a statistic.

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

[illegible]

Assembly Instructions

1300 Anhydrous Toolbar w/Liquid Tank

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. Find the "Pump Mount" and mount it to the left (looking from behind) mainframe lower saddle clamp. Attach the other three wheel saddle clamps to the other lower 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 #213001, 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 #212001 (Wingfold) and #212051 (Wheel Mount) in their approximate locations.
2. Using hardware from bag #213001 (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.

Liquid Tank/Saddle, Ground Drive/Pump Installation

1. Set the tank saddle on the mainframe of the toolbar with the sump hole on the left side (Looking from behind bar) of the toolbar. Attach the saddle to the frame with hardware from bag #102226.
2. Set the tank in the saddle (making sure the tank sump is in the sump hole) and attach to the saddle with tank straps and hardware from bag #102226.
3. Using hardware from bag #213190 install the 2" quick-fill per the "Quick-fill Plumbing Schematic".
4. Attach the Pump Mounting Arm to the Pump Drive Saddle Clamp using the 1-1/2" x 8" hinge pin provided in the saddle clamp.
5. Using hardware from bag #102444 attach the pump to the pump arm and the drive wheel assembly to the pump arm. **Note: Before mounting the pump to the pump arm, the upper most plug must be replaced with a vented plug and the square head drain plug (bottom of pump) must be replaced with the allen head drain plug. Both plugs are provided.**
6. Plumb the pump with hardware provided in bag #213189.

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 coulters 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.

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 #102178 (3/8" NH3 Kit 27-1/2' – 32-1/2'), 102179 (1/2" NH3 Kit 27-1/2' – 32-1/2'), 102180 (3/8" NH3 Kit 35'), or 102181 (1/2" NH3 Kit 35').
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.

1300 Hardware Packages 27-1/2' - 37-1/2' Liquid

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/Coulter 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

1300 Hardware Packages 27-1/2' - 37-1/2' Liquid

Qty	Part #	Description
1	102035	NH3 Floating Rear Hitch Hdwe Bag
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

Qty	Part #	Description
1	102032	1300/1500 Light Package Hdwe Bag
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

Qty	Part #	Description
1	102078	1300/1500 Wheel Gear Hdwe Bag - S/S
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

Qty	Part #	Description
1	102079	1300/1500 Wheel Gear Hdwe Bag - T/S
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

Qty	Part #	Description
1	102080	1300/1500 Wheel Mount Hdwe Bag - T/T
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

Qty	Part #	Description
1	102111	1300 30' Marker Attch Hdwe Bag
2	101172	3/4" - 10 x 2-1/2" Hex Bolt - PLT
4	101209	1/4" - 20 Hex Nut - PLT
12	101215	3/4" - 10 Hex Nut - PLT
4	101218	1/4" Lock Washer - PLT
12	101224	3/4" Lock Washer - PLT
6	101233	3/4" Flat Washer - PLT
2	101242	3/4" - 10 Self Locking Nut
4	101343	1/4" - 20 x 4" Carriage Bolt
6	101370	3/4" - 10 x 5" x 9" U-Bolt - PLT
2	400094	3/4" x 2" x 12" Rubber Bumper
2	400130	Marker Arm Safety Latch

Qty	Part #	Description
1	102112	1300 30' Marker Arm Assy Bag
2	101137	7/16" - 14 x 1-1/2" Hex Bolt
4	101147	1/2" - 13 x 1" Hex Bolt
2	101149	1/2" - 13 x 2" Hex Bolt
4	101153	1/2" - 13 x 4" Hex Bolt
2	101212	7/16" - 14 Hex Nut
6	101213	1/2" - 13 Hex Nut
2	101221	7/16" Lock Washer
6	101222	1/2" Lock Washer
2	101230	7/16" Flat Washer
2	101231	1/2" Flat Washer
1	101247	7/32" x 2" Cotter Pin
2	101267	Chain Clevis Assembly
8	301193	1/2" - 20 x 1-1/4" Whiz Bolt
2	400032	Pivot Plate
2	400104	Drag Link
2	602110	1.0" x 8" Welded Hinge Pin

1300 Hardware Packages 27-1/2' - 37-1/2' Liquid

Qty	Part #	Description
1	102178	3/8" NH3 Kit Hdwe Bag 27-1/2' - 32-1/2'
1	101148	1/2" - 13 x 1-1/2" Hex Bolt
1	101152	1/2" - 13 x 3-1/2" - PLT - Grade 5
1	101179	3/4" - 10 x 6" - PLT - Grade 5
2	101213	1/2" - 13 Hex Nut PLT
3	101215	3/4" - 10 Hex Nut - PLT
2	101222	1/2" Lock Washer - PLT
3	101224	3/4" Lock Washer - PLT
2	101231	1/2" Flat Washer - PLT
1	101317	3/4" - 10 x 5" x 8-1/2" U-Bolt - PLT
30	700126	3/8" - 1/2" Stainless Hose Clamp
4	700211	1/4" NPT x 1/2" Manifold Plug
1	700235A	2.5" Stainless NH3 Gauge 0 -100 PSI
1	700256	1" St. Elbow - Black Pipe
1	700257	1" Short Nipple - Black Pipe
1	700272	NH3 Manifold - 14 Outlet
1	700275	1-1/4" Schedule 80 Coupler
1	700276	1-1/4" Quickcoupler Assembly
15	700277	1/4" NPT x 3/8" Hose Barb
1	700278	1-1/4" Male Coupler Tip (NH3)

Qty	Part #	Description
1	102180	NH3 Kit Hdwe Bag-35' Sgl Manifold
1	101148	1/2" - 13 x 1-1/2" Hex Bolt
1	101152	1/2" - 13 x 3-1/2" - PLT - Grade 5
1	101179	3/4" - 10 x 6" - PLT - Grade 5
2	101213	1/2" - 13 Hex Nut PLT
3	101215	3/4" - 10 Hex Nut - PLT
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
30	700126	3/8" - 1/2" Stainless Hose Clamp
1	700215	1/4" FNPT Tee - Black Pipe
1	700226	1/4" MNPT Nipple x 1-1/2" Long
1	700235A	2.5" Stainless NH3 Gauge 0 -100 PSI
1	700256	1" St. Elbow - Black Pipe
1	700257	1" Short Nipple - Black Pipe
1	700272	NH3 Manifold - 14 Outlet
1	700275	1-1/4" Schedule 80 Coupler
1	700276	1-1/4" Quickcoupler Assembly
16	700277	1/4" NPT x 3/8" Hose Barb
1	700278	1-1/4" Male Coupler Tip (NH3)

Qty	Part #	Description
1	102179	1/2" NH3 Kit Hdwe Bag 27-1/2' - 32-1/2'
1	101148	1/2" - 13 x 1-1/2" Hex Bolt
1	101152	1/2" - 13 x 3-1/2" - PLT - Grade 5
1	101179	3/4" - 10 x 6" - PLT - Grade 5
2	101213	1/2" - 13 Hex Nut PLT
3	101215	3/4" - 10 Hex Nut - PLT
2	101222	1/2" Lock Washer - PLT
3	101224	3/4" Lock Washer - PLT
2	101231	1/2" Flat Washer - PLT
1	101317	3/4" - 10 x 5" x 8-1/2" U-Bolt - PLT
30	700126	3/8" - 1/2" Stainless Hose Clamp
15	700208	1/4" NPT x 1/2" Hose Barb
4	700211	1/4" NPT x 1/2" Manifold Plug
1	700235A	2.5" Stainless NH3 Gauge 0 -100 PSI
1	700256	1" St. Elbow - Black Pipe
1	700257	1" Short Nipple - Black Pipe
1	700272	NH3 Manifold - 14 Outlet
1	700275	1-1/4" Schedule 80 Coupler
1	700276	1-1/4" Quickcoupler Assembly
1	700278	1-1/4" Male Coupler Tip (NH3)

Qty	Part #	Description
1	102181	1/2" NH3 Kit Hdwe Bag-35' Sgl Manifold
1	101148	1/2" - 13 x 1-1/2" Hex Bolt
1	101152	1/2" - 13 x 3-1/2" - PLT - Grade 5
1	101179	3/4" - 10 x 6" - PLT - Grade 5
2	101213	1/2" - 13 Hex Nut PLT
3	101215	3/4" - 10 Hex Nut - PLT
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
30	700126	3/8" - 1/2" Stainless Hose Clamp
16	700208	1/4" NPT x 1/2" Hose Barb
1	700215	1/4" FNPT Tee - Black Pipe
1	700226	1/4" MNPT Nipple x 1-1/2" Long
1	700235A	2.5" Stainless NH3 Gauge 0 -100 PSI
1	700256	1" St. Elbow - Black Pipe
1	700257	1" Short Nipple - Black Pipe
1	700272	NH3 Manifold - 14 Outlet
1	700275	1-1/4" Schedule 80 Coupler
1	700276	1-1/4" Quickcoupler Assembly
1	700278	1-1/4" Male Coupler Tip (NH3)

1300 Hardware Packages 27-1/2' - 37-1/2' Liquid

1 102182 3/8" NH3 Kit Hdwe Bag - Dual Manifold		
Qty	Part #	Description
1	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
1	400225	B9500 Regulator Mounting Bracket
38	700126	3/8" - 1/2" Stainless Hose Clamp
11	700211	1/4" NPT x 1/2" Manifold Plug
1	700227	1" FNPT Tee - Black Pipe
2	700235A	2.5" Stainless NH3 Gauge 0 -100 PSI
2	700256	1" St. Elbow - Black Pipe
1	700257	1" Short Nipple - Black Pipe
2	700272	NH3 Manifold - 14 Outlet
1	700275	1-1/4" Schedule 80 Coupler
1	700276	1-1/4" Quickcoupler Assembly
19	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

1 102183 1/2" NH3 Kit Hdwe Bag - Dual Manifold		
Qty	Part #	Description
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
1	400225	B9500 Regulator Mounting Bracket
38	700126	3/8" - 1/2" Stainless Hose Clamp
19	700208	1/4" NPT x 1/2" Hose Barb
11	700211	1/4" NPT x 1/2" Manifold Plug
1	700227	1" FNPT Tee - Black Pipe
2	700235A	2.5" Stainless NH3 Gauge 0 -100 PSI
2	700256	1" St. Elbow - Black Pipe
1	700257	1" Short Nipple - Black Pipe
2	700272	NH3 Manifold - 14 Outlet
1	700275	1-1/4" Schedule 80 Coupler
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

1 102216 Single Regulator Hdwe Bag		
Qty	Part #	Description
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 102226 1300 - 500 Gal Tank/Saddle Hdwe Bag		
Qty	Part #	Description
8	101157A	1/2" - 13 x 6-1/2" Hex Bolt
4	101211	3/8" - 16 Hex Nut
8	101213	1/2" - 13 Hex Nut
8	101222	1/2" Lock Washer
8	101229	3/8" Flat Washer
8	101231	1/2" Flat Washer
4	101248	3/8" - 16 x 5" Continuous Thread Bolt
4	400140	1/2" x 3" x 5-5/8" Attaching Plate

1 102244 1300/1500 Pump Drive Hdwe Bag		
Qty	Part #	Description
4	101126	3/8" - 16 x 1-1/2" Hex Bolt
2	101138	7/16" -14 x 2" Hex Bolt
2	101143	7/16" - 14 x 4-1/2" Hex Bolt
4	101211	3/8" - 16 Hex Nut
4	101212	7/16" - 14 Hex Nut
8	101220	3/8" Lock Washer
4	101221	7/16" Lock Washer
8	101229	3/8" Flat Washer
1	101429	No. 50 Roller Chain - Master Link
1	101465	No. 50 Roller Chain x 33-1/2"
4	301193	1/2" - 20 x 1-1/4" Whiz Bolt
4	301243	1/2" - 20 Lug Nut
1	450010	1/4" x 1-1/2" Square Key
1	450065	No. 50 x 36 Tooth Sprocket - 1-1/4" Bore
2	450066	1-1/4" Bore Lock Collar
2	450067	Cast Bearing Holder for 1-1/4" Bearing

1300 Hardware Packages 27-1/2' - 37-1/2' Liquid

Qty	Part #	Description
1	212001	1300 Wingfold Hyd Hose Pkg
1	202048	1/4" x No. 6 FJIC x No. 6 FJIC x 106" Hose
2	202123	1/4" x 3/8" MNPT x 6 FJIC x 174" Hose
1	202137	1/4" x No. 6 FJIC x No. 6 FJIC x 28" Hose
1	202138	1/4" x No. 6 FJIC x No. 6 FJIC x 80" Hose

Qty	Part #	Description
1	213001	1300 Wingfold Hyd Hdwe Bag
3	101211	3/8" - 16 Hex Nut - PLT
3	101220	3/8" Lock Washer - PLT
2	101235	1" Flat Washer - Plated
2	101347	3/16" x 2" Cotter Pin
5	201001	No. 6 MJIC x No. 8 O-Ring Boss 90
1	201009	No. 6 Male JIC Tee
2	201015	1/2" MNPT x 1/4" FNPT Bushing
2	400080	4 Hose Hold Down Bracket
1	400117	2 Hose Hold Down Bracket
2	801613	1" x 5-1/4" Welded - Cylinder Pin

Qty	Part #	Description
1	213051	1300/1500 Wheel Mount Hyd Hdwe Bag
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

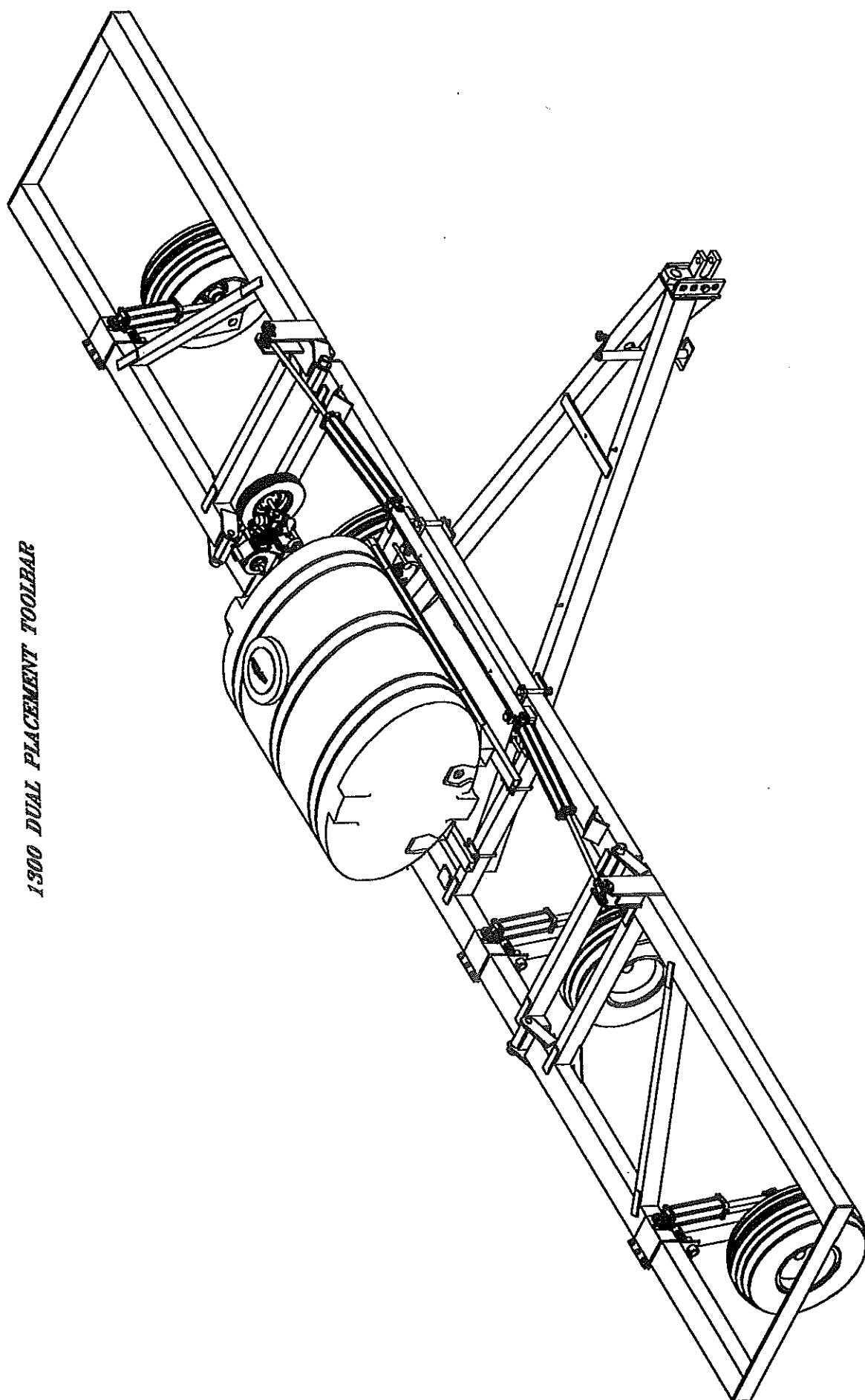
Qty	Part #	Description
1	213189	1300/1500 JB Sgl Pump Plumbing Hdw
1	700008	1" NPT x 1" Hose Barb
1	700014	1-1/2" NPT x 1-1/2" Hose Barb
1	700035	1" NPT Close Nipple
2	700037	1-1/2" NPT Close Nipple
1	700074	1" NPT Tee
1	700076	1-1/2" NPT Tee
1	700084	1-1/2" NPT Plug
2	700129	#24 Stainless Hose Clamp
1	700214	1-1/2" NPT Banjo Filter
1	700236	2-1/2" Glycerin Filled Pressure Gauge
1	700290	1" NPT x 1/4" Reducing Bushing

Qty	Part #	Description
1	212051	1300 Wheel Mount Hyd Hose Pkg
1	202111	3/8" x No. 8 FJIC x No. 8 FJIC x 216" Hose
1	202124	3/8" x No. 8 FJIC x No. 8 FJIC x 28" Hose
1	202128	3/8" x No. 8 FJIC x No. 8 FJIC x 96" Hose
2	202134	3/8" x No. 8 FJIC x 1/2" MNPT x 224" Hose
1	202147	3/8" x No. 8 FJIC x No. 8 FJIC x 6" Hose
2	202152	3/8" x No. 8 FJIC x No. 8 FJIC x 144" Hose
1	202193	3/8" x No. 8 FJIC x No. 8 FJIC x 166" Hose

Qty	Part #	Description
1	212078	1300 30' Marker Hyd Hose Pkg
1	202012	1/4" x 131" x 6 FJIC x 6 FJIC Hose
1	202097	1/4" x 172" x 6 FJIC x 6 FJIC Hose
2	202123	1/4" x 174" x 3/8" MNPT x 6 FJIC Hose
1	202148	1/4" x 168" x 6 FJIC x 6 FJIC Hose
1	202149	1/4" x 200" x 6 FJIC x 6 FJIC Hose

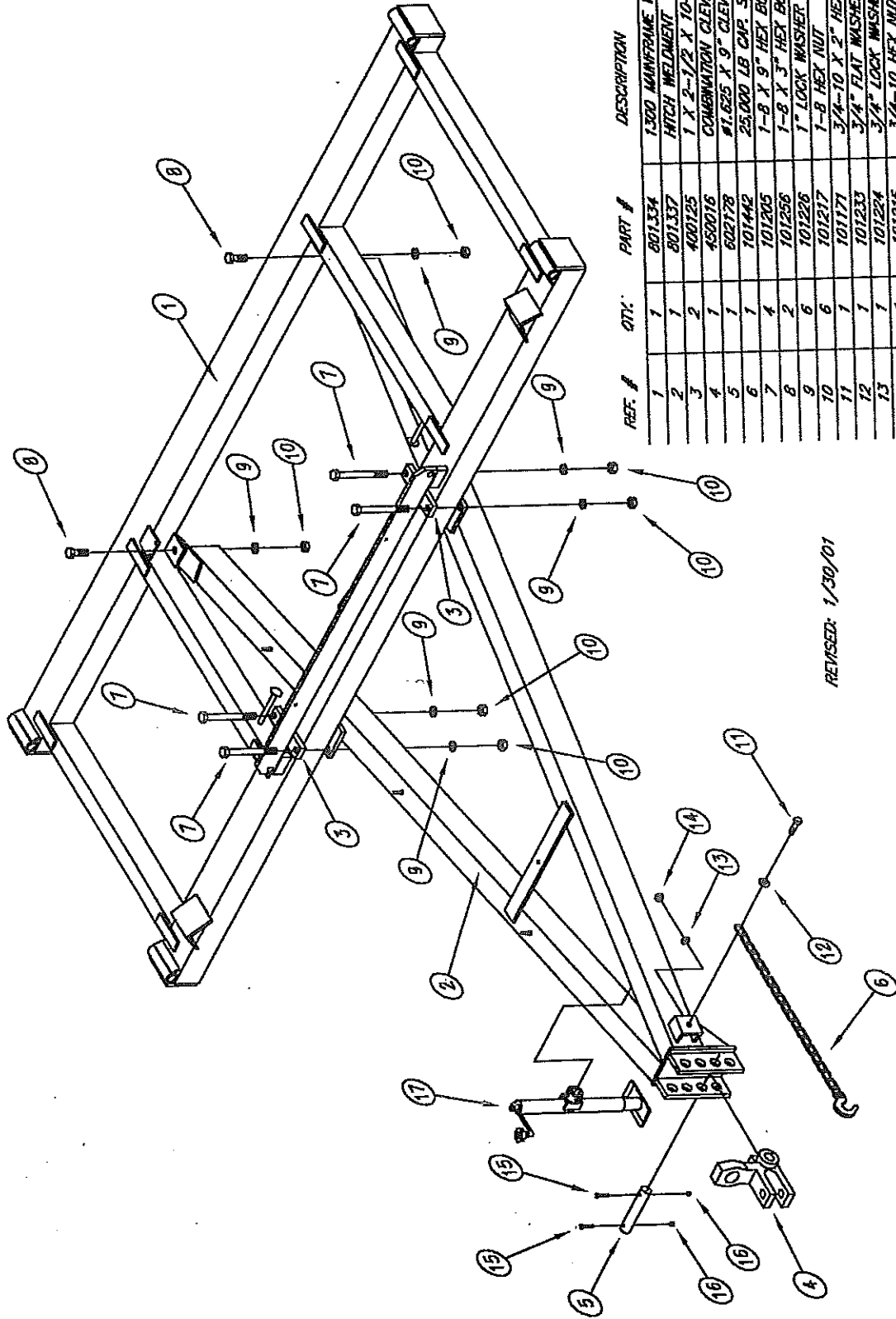
Qty	Part #	Description
1	213076	1300 30' Marker Hyd Hdwe Bag
2	101129	3/8"-16 x 3" Hex Bolt - Grade 5
2	101211	3/8" - 16 Hex Nut PLT
2	101220	3/8" Lock Washer PLT
2	201001	No. 6 MJIC x No. 8 Male O-Ring Boss 90
2	201003	No. 6 MJIC x No. 8 Male O-Ring Straight
2	201015	1/2" MNPT x 1/4" FNPT Bushing
4	201029	No. 6 MJIC x No. 6 FJIC Swivel
1	203002	Automatic Sequence Valve

Qty	Part #	Description
1	213190	1300 - 2" Quick-fill Hdwe Bag
2	101125	3/8" - 16 x 1" Hex Bolt
4	101211	3/8" - 16 Hex Nut
4	101220	3/8" Lock Washer
1	101371	3/8" - 16 x 7" x 6" U-Bolt
1	700014	1-1/2" NPT x 1-1/2" Hose Barb
1	700015	2" NPT x 2" Hose Barb
1	700038	2" NPT Close Nipple
1	700077	2" NPT Tee
1	700129	1-1/2" Stainless Hose Clamp
2	700130	2" Stainless Hose Clamp
1	700171A	1-1/2" NPT Gate Valve
1	700186	2" NPT x 1-1/2" NPT Reducing Nipple
1	700187	2" Flange x 2" Hose Barb
1	700188	2" Worm Screw Clamp
1	700189	2" EPDM Gasket
1	700190	2" Male Adapter x 2" C-Flange
1	700191	2" Cap for Male Adapter
1	700192	90 Degree Stainless Mounting Bracket



1300 DUAL PLACEMENT TOOLBAR

MAINFRAME AND HITCH ASSEMBLY

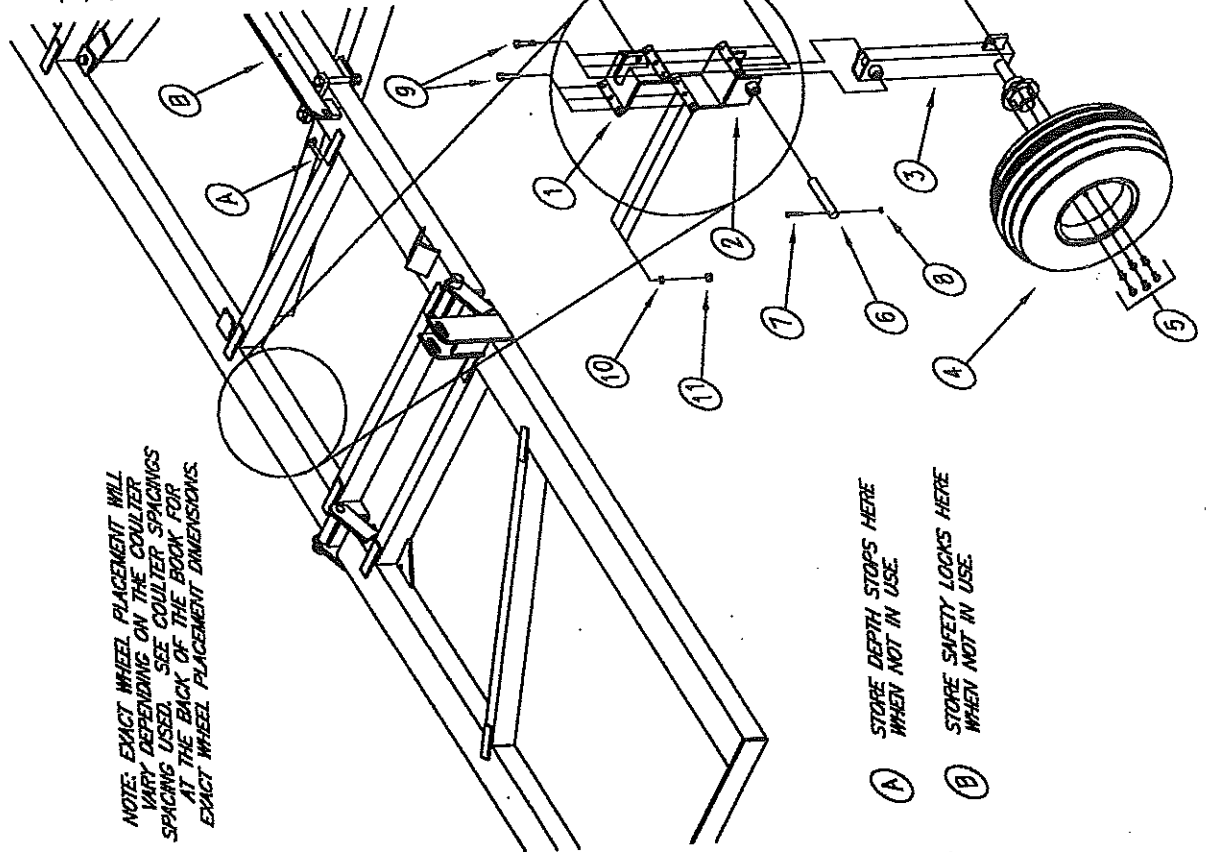


REF. #	QTY.	PART #	DESCRIPTION
1	1	801334	1300 MAINFRAME WELDMENT
2	1	801337	HITCH WELDMENT
3	2	400125	1 X 2-1/2 X 10-1/4 CLAMP PLATE
4	1	450016	COMBINATION CLEMS
5	1	602178	#1.625 X 9" CLEMS PIN
6	1	101442	25,000 LB CAP. SAFETY CHAIN ASSEMBLY
7	4	101205	1-8 X 9" HEX BOLT
8	2	101256	1-8 X 3" HEX BOLT-GR.8 YEM. ZINC
9	6	101228	1" LOCK WASHER
10	6	101217	1-8 HEX NUT
11	1	101171	3/4-10 X 2" HEX BOLT
12	1	101233	3/4" FLAT WASHER
13	1	101224	3/4" LOCK WASHER
14	1	101215	3/4-10 HEX NUT
15	2	101128	3/8-16 X 2-1/2" HEX BOLT
16	2	101455	3/8-16 TOPLOCK NUT
17	1	400014	IMPLEMENT JACK

REVISED: 1/30/01

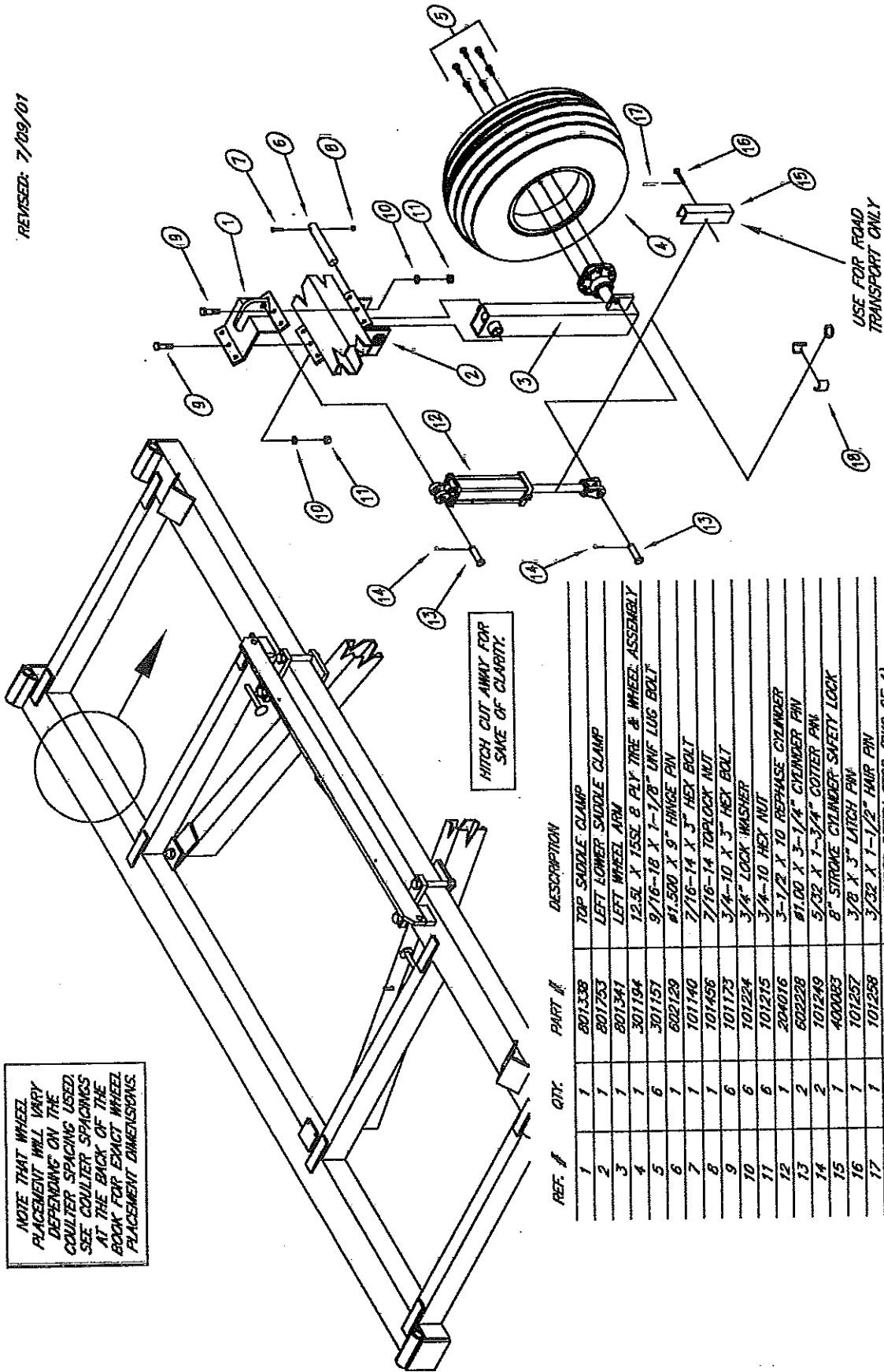
MAINFRAME WHEEL ASSEMBLY -- RIGHT SIDE

REF. #	QTY.	PART #	DESCRIPTION
1	1	801308	TOP SADDLE CLAMP (WHEEL) WELDMENT
2	1	801754	LOWER SADDLE CLAMP WELDMENT (RIGHT)
3	1	801342	RIGHT WHEEL ARM WELDMENT
4	1	301194	12.5L X 15SL BRLY & 10 X 15 ASSEMBLY
5	6	301151	9/16-18 X 1-1/8" 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" LOCK WASHER
10	6	101224	3/4-10 HEX NUT
11	6	101215	3-1/2 X 10 REPHASE CYLINDER
12	1	204016	3-1/2 X 3-1/4" CYLINDER PIN
13	2	602228	#1.00 X 3-1/4" COITER PIN
14	2	101249	5/32 X 1-3/4" COITER PIN
15	1	400083	8" STROKE CYLINDER SAFETY LOCK
16	1	101257	3/8 X 3" LATCH PIN
17	1	101258	3/32 X 1-1/2" HAIR PIN
18	1	450081	CYLINDER DEPTH STOP (PKG OF 4)



LEFT MAINFRAME WHEEL ASSEMBLY

REVISED: 7/09/01



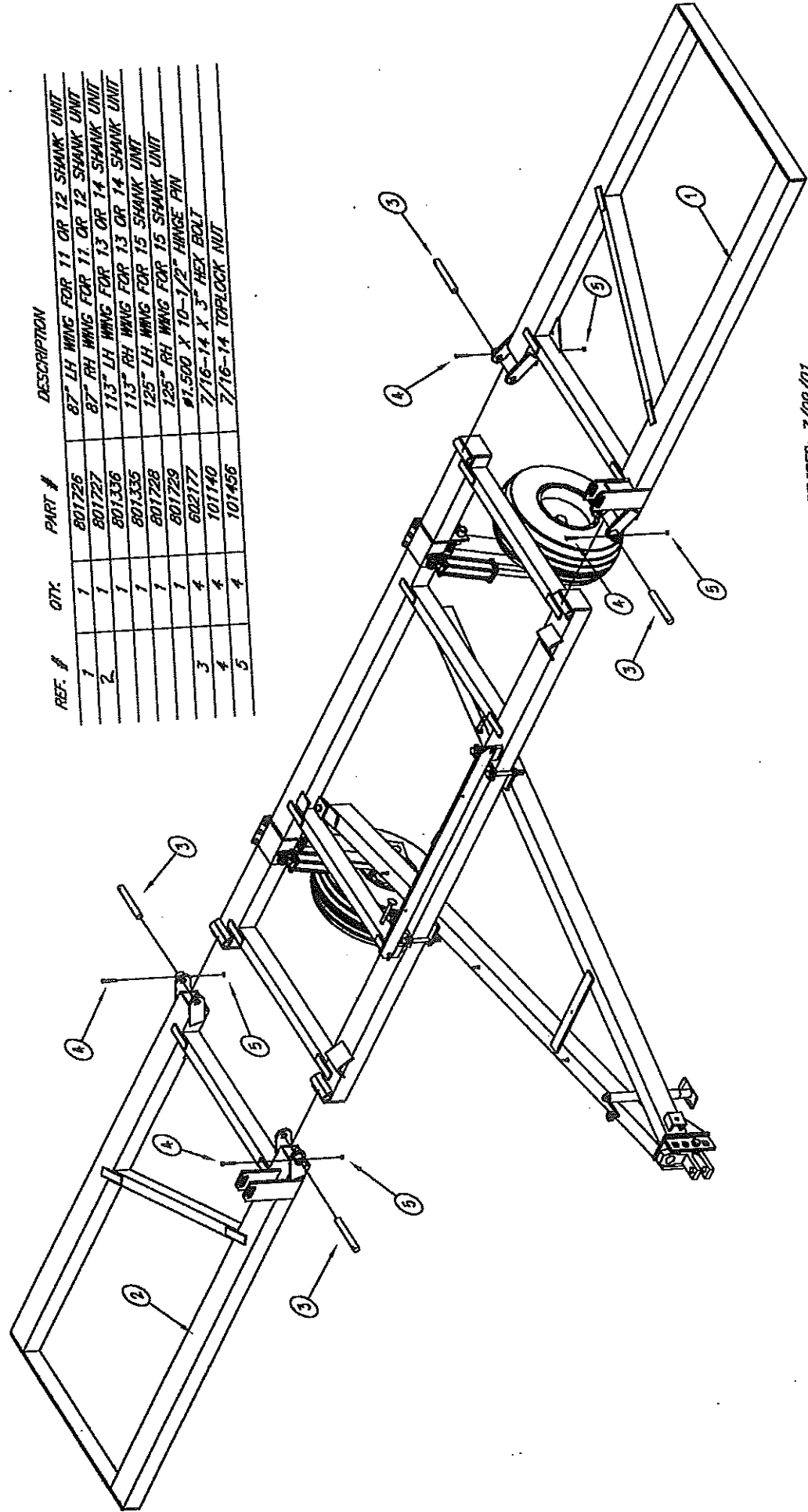
NOTE THAT WHEEL
PLACEMENT WILL VARY
DEPENDENT ON THE
COUPLER SPACING USED.
SEE COUPLER SPACINGS
AT THE BACK OF THE
BOOK FOR EXACT WHEEL
PLACEMENT DIMENSIONS.

HITCH CUT AWAY FOR
SAME OF CLARITY.

USE FOR ROAD
TRANSPORT ONLY

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 155L 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 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" COILER PIN
15	1	400083	8" STROKE CYLINDER SAFETY LOCK
16	1	101257	3/8 X 3" LATCH PIN
17	1	101258	3/32 X 1-1/2" HAIR PIN
18	1	450061	CYLINDER DEPTH STOP (PKG OF 4)

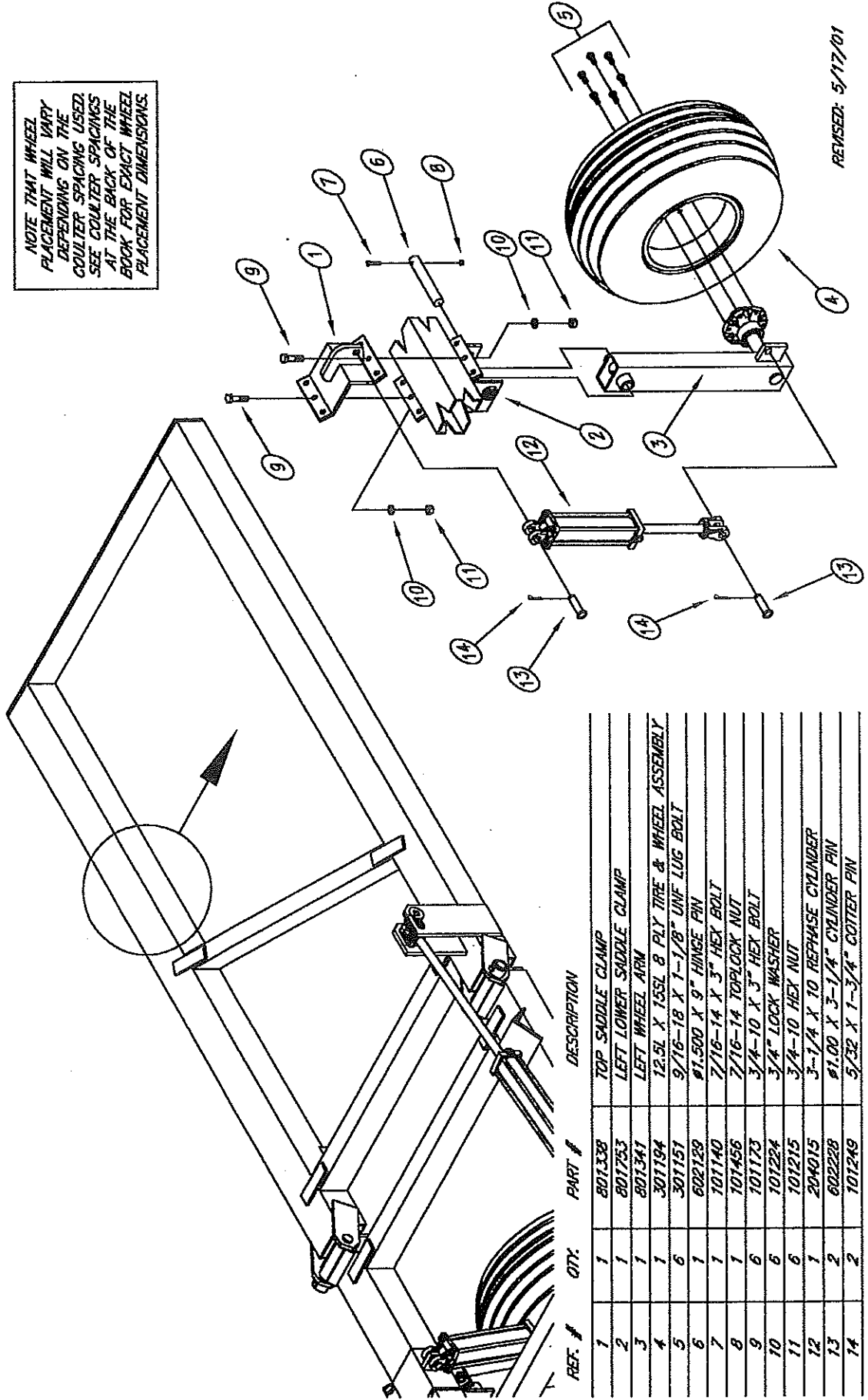
WING ASSEMBLY



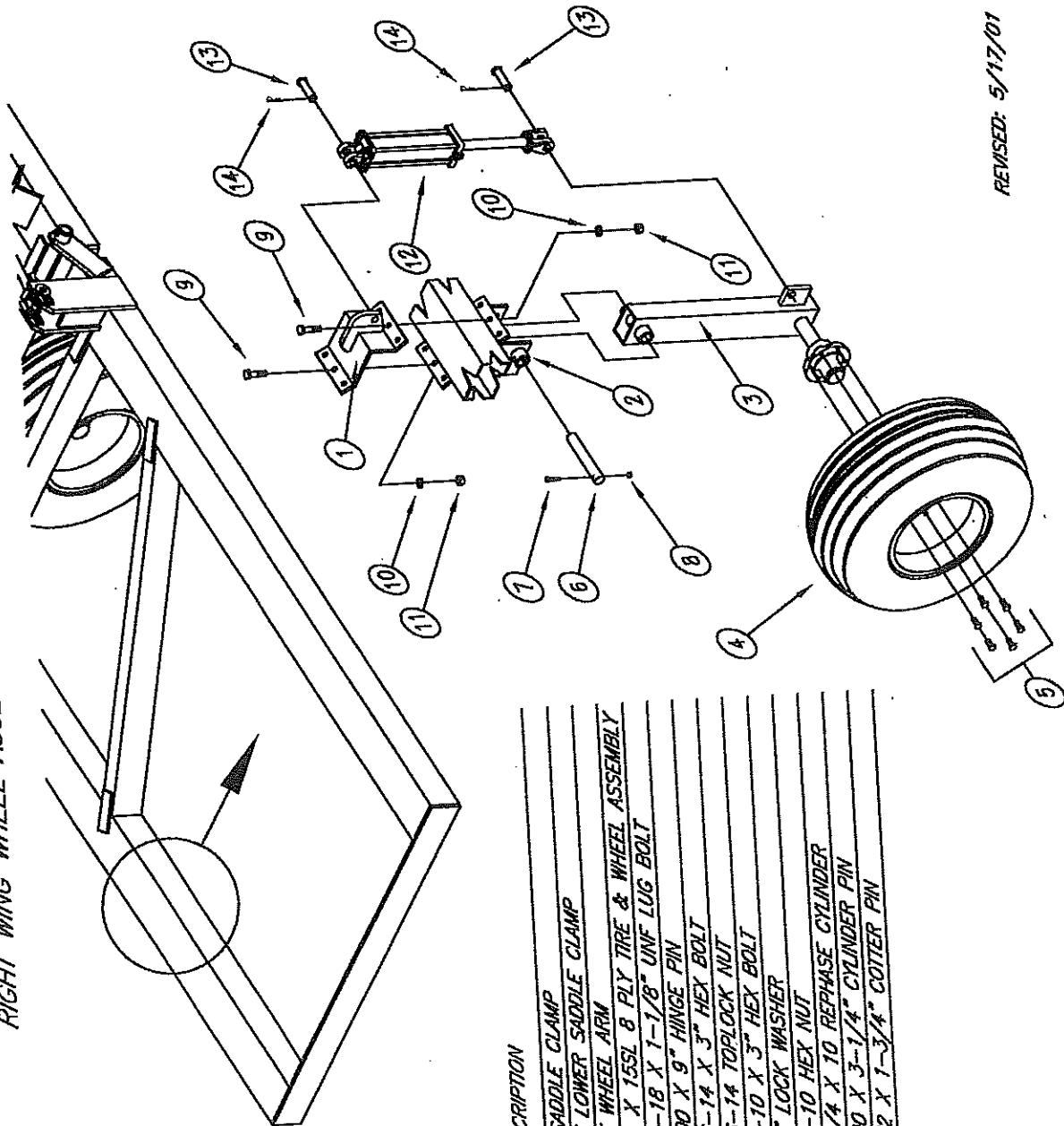
REF. #	QTY.	PART #	DESCRIPTION
1	1	801726	87" LH WING FOR 11 OR 12 SHANK UNIT
2	1	801727	87" RH WING FOR 11 OR 12 SHANK UNIT
3	1	801336	113" LH WING FOR 13 OR 14 SHANK UNIT
4	1	801335	113" RH WING FOR 13 OR 14 SHANK UNIT
5	1	801728	125" LH WING FOR 15 SHANK UNIT
6	1	801729	125" RH WING FOR 15 SHANK UNIT
7	4	602177	#1.500 X 10-1/2" HINGE PIN
8	4	101140	7/16-14 X 3" HEX BOLT
9	4	101456	7/16-14 TORLOCK NUT

REVISED: 7/09/01

LEFT WING WHEEL ASSEMBLY



RIGHT WING WHEEL ASSEMBLY

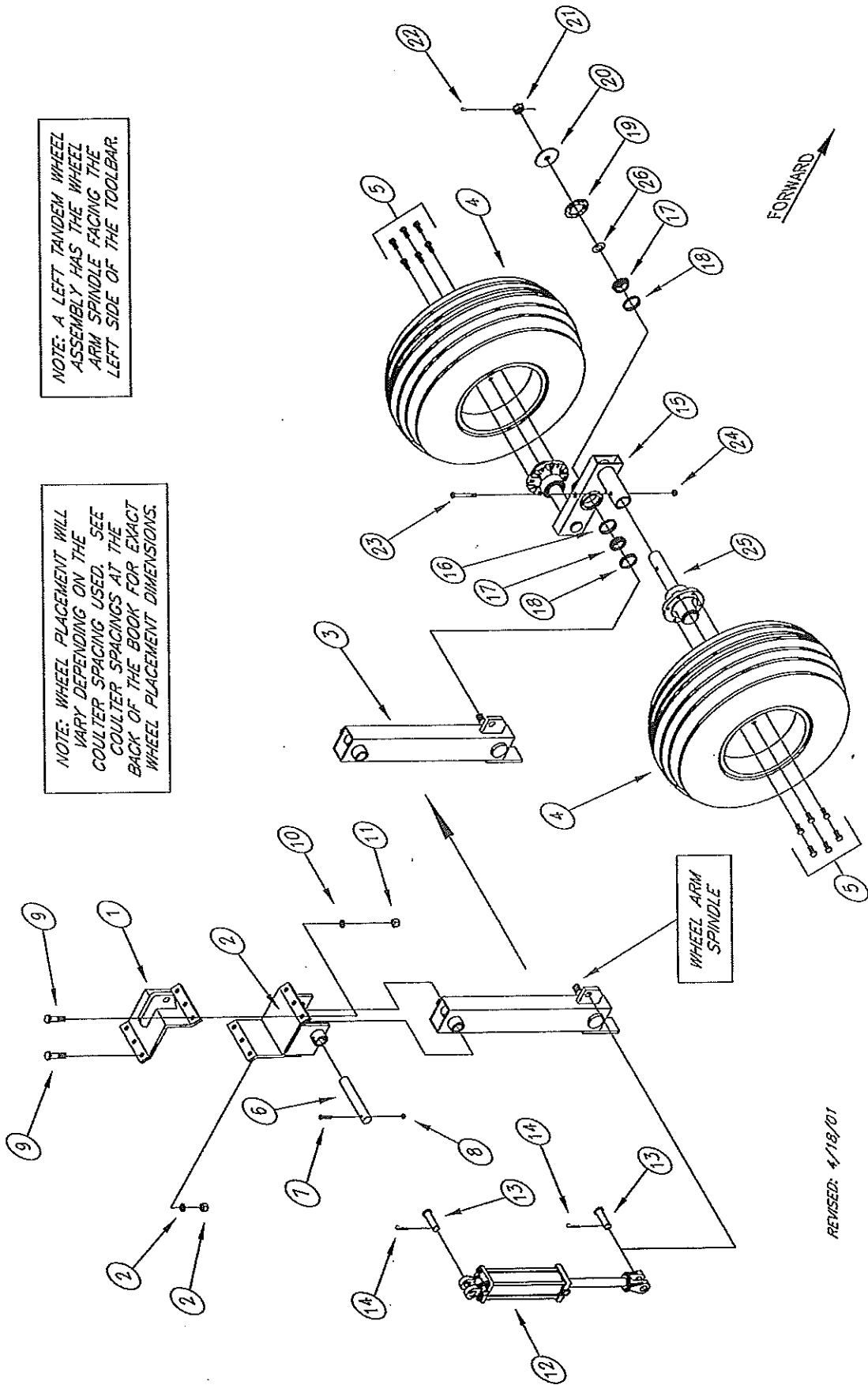


NOTE THAT WHEEL
PLACEMENT WILL VARY
DEPENDENT ON THE
COUTLER SPACING USED.
SEE COUTLER SPACINGS
AT THE BACK OF THE
BOOK FOR EXACT WHEEL
PLACEMENT DIMENSIONS.

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	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	204015	3-1/4 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: 5/17/01

OPTIONAL LEFT TANDEM WHEEL ASSEMBLY



REVISED: 4/18/01

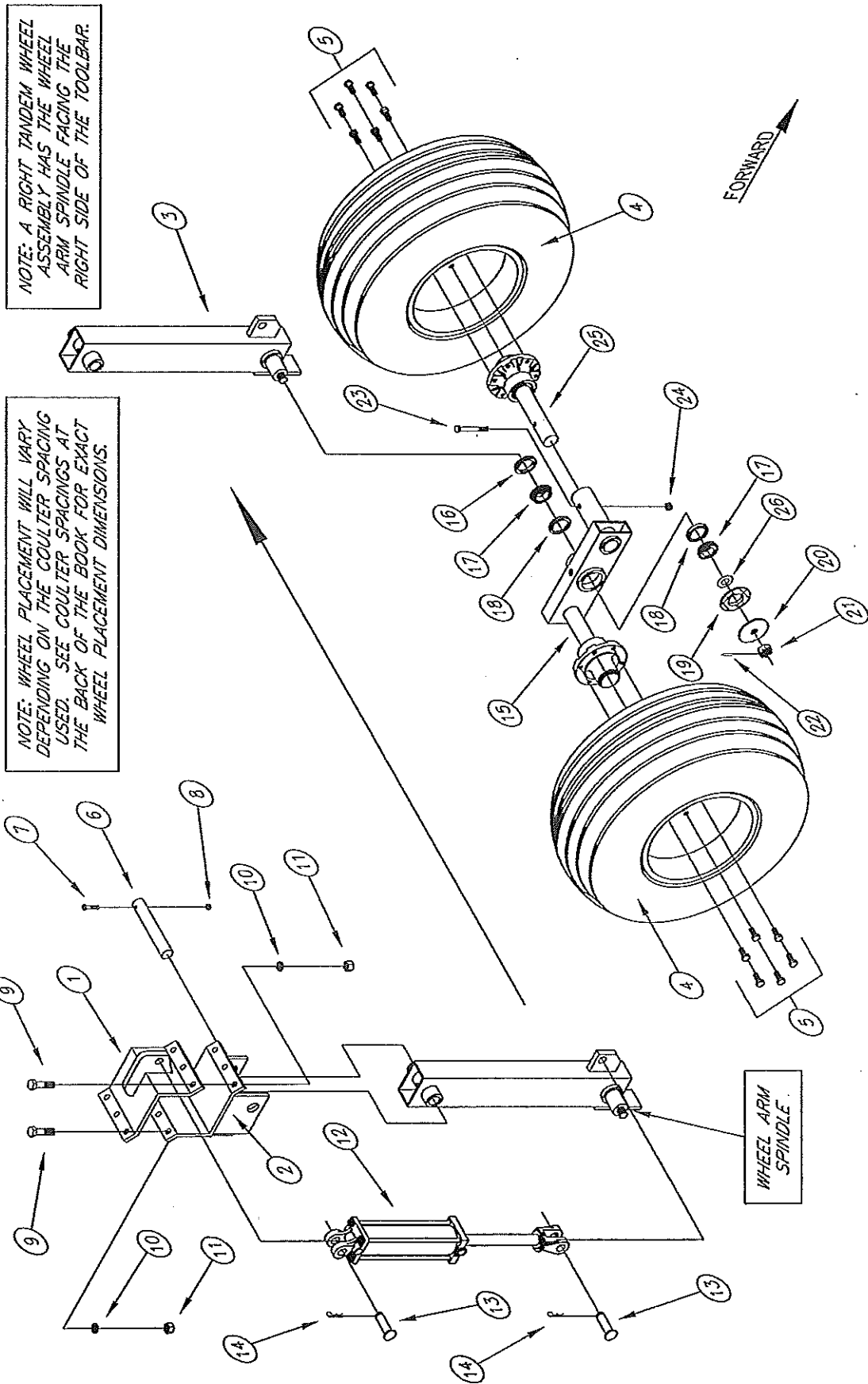
OPTIONAL LEFT TANDEM WHEEL ASSEMBLY (EXPLODED)

REVISED: 7/09/01

REF. #	QTY.	PART #	DESCRIPTION
1	1	801338	TOP SADDLE CLAMP (WHEEL) WELDMENT
2	1	801753	LEFT LOWER SADDLE CLAMP WELDMENT
3	1	801349	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	801757	LEFT 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. X 3/16" WASHER
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.

OPTIONAL RIGHT TANDEM WHEEL ASSEMBLY



OPTIONAL RIGHT TANDEM WHEEL ASSEMBLY (EXPLODED)

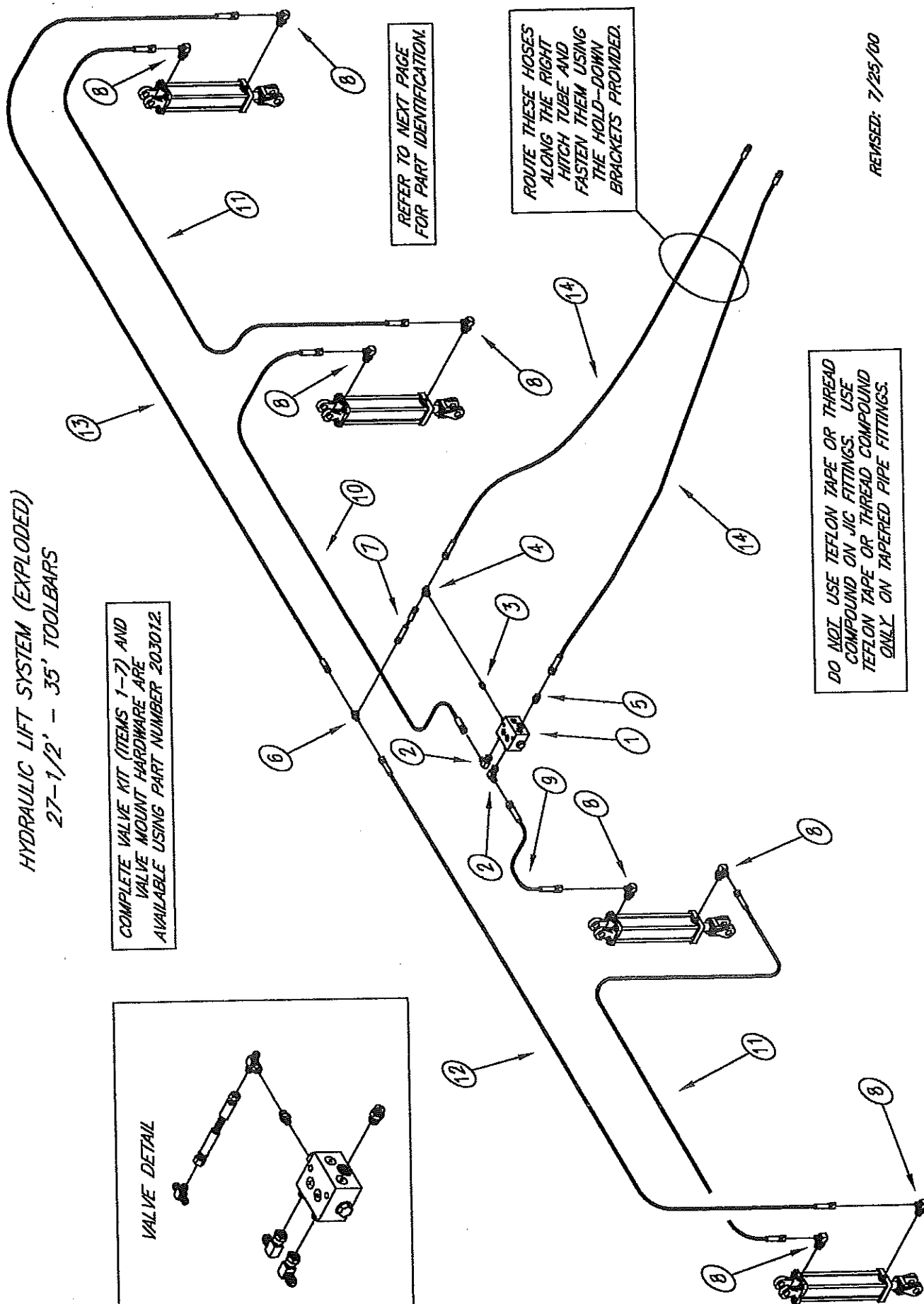
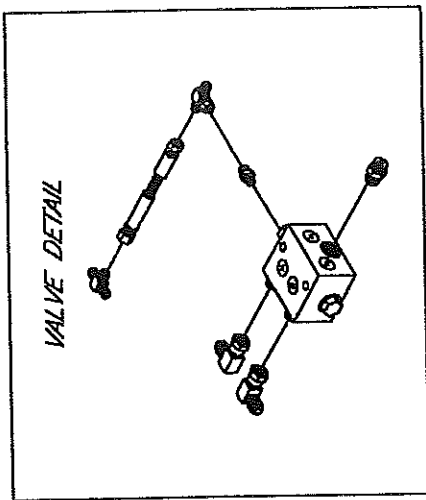
REVISED: 7/09/01

REF. #	QTY.	PART #	DESCRIPTION
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) 27-1/2' - 35' TOOLBARS

COMPLETE VALVE KIT (ITEMS 1-7) AND
VALVE MOUNT HARDWARE ARE
AVAILABLE USING PART NUMBER 203012.

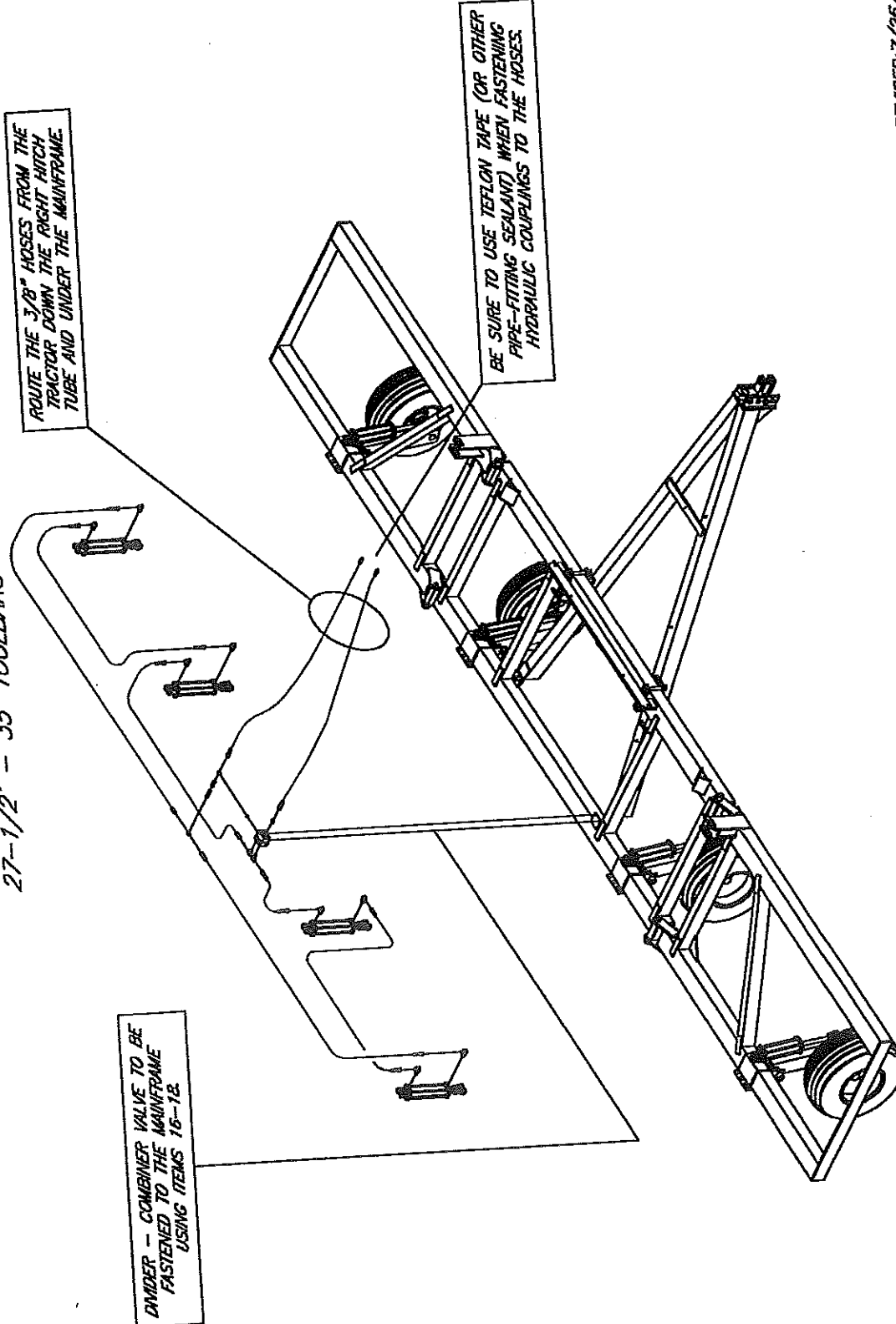


REFER TO NEXT PAGE
FOR PART IDENTIFICATION.

ROUTE THESE HOSES
ALONG THE RIGHT
HITCH TUBE AND
FASTEN THEM USING
THE HOLD-DOWN
BRACKETS PROVIDED.

DO NOT USE TEFLON TAPE OR THREAD
COMPOUND ON JIC FITTINGS. USE
TEFLON TAPE OR THREAD COMPOUND
ONLY ON TAPERED PIPE FITTINGS.

HYDRAULIC LIFT SYSTEM 27-1/2' - 35' TOOLBARS



ROUTE THE 3/8" HOSES FROM THE TRACTOR DOWN THE RIGHT HITCH TUBE AND UNDER THE MAINFRAME.

DIVIDER - COMBINER VALVE TO BE FASTENED TO THE MAINFRAME USING ITEMS 15-18.

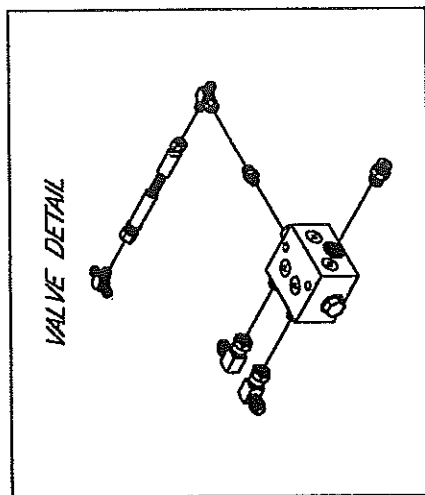
BE SURE TO USE TEFLON TAPE (OR OTHER PIPE-FITTING SEALANT) WHEN FASTENING HYDRAULIC COUPLINGS TO THE HOSES.

REVISED: 7/25/00

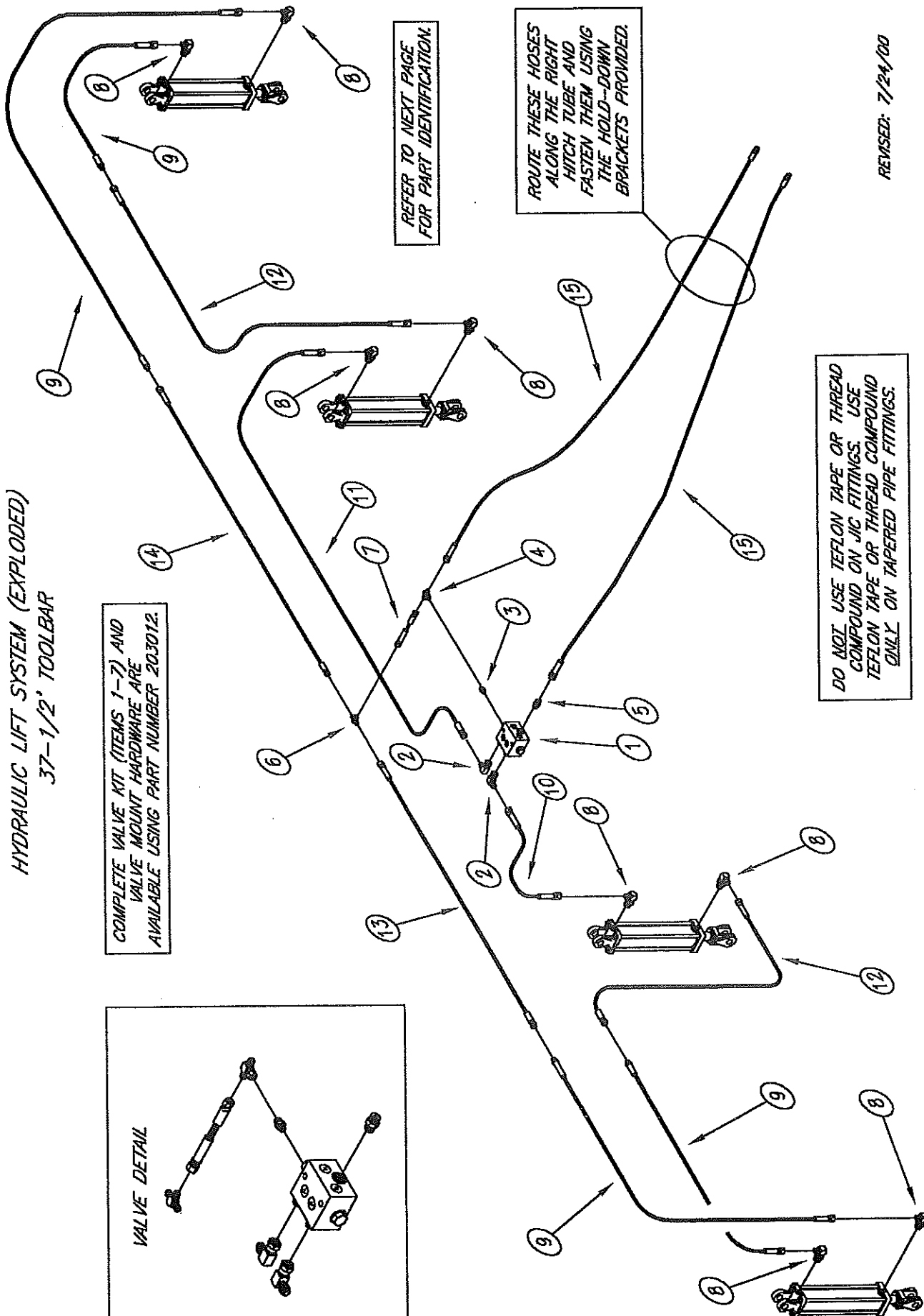
REF. #	QTY.	PART #	DESCRIPTION
10	1	202128	3/8" X NO. 8 FIRC X NO. 8 FIRC X 95" HOSE
11	2	202152	3/8" X NO. 8 FIRC X NO. 8 FIRC X 144" HOSE
12	1	202193	3/8" X NO. 8 FIRC X NO. 8 FIRC X 168" HOSE
13	1	202111	3/8" X NO. 8 FIRC X NO. 8 FIRC X 216" HOSE
14	2	202134	3/8" X NO. 8 FIRC X 1/2" MPT X 224" HOSE
15	2	101130	3/8-16 X 3-1/2" HEX BOLT
16	2	101220	3/8" LOCK WASHER
17	2	101211	3/8-16 HEX NUT

REF. #	QTY.	PART #	DESCRIPTION
1	1	203011	DIVIDER - COMBINER VALVE
2	2	201055	NO. 8 FIRC X NO. 8 MALE O-RING SWIVEL 90
3	1	201008	NO. 8 MAIC X NO. 6 MALE O-RING
4	1	201058	NO. 8 FIRC X NO. 8 MAIC BRANCH TEE
5	1	201004	NO. 8 MAIC X NO. 6 MALE O-RING
6	1	201010	NO. 8 MAIC TEE
7	1	202147	3/8" X NO. 8 FIRC X NO. 8 FIRC X 6" HOSE
8	8	201002	NO. 8 MAIC X NO. 8 MALE O-RING BOSS 90
			NO. 8 MAIC X NO. 8 FIRC X 28" HOSE

HYDRAULIC LIFT SYSTEM (EXPLODED) 37-1/2" TOOLBAR



COMPLETE VALVE KIT (ITEMS 1-7) AND
VALVE MOUNT HARDWARE ARE
AVAILABLE USING PART NUMBER 203012.

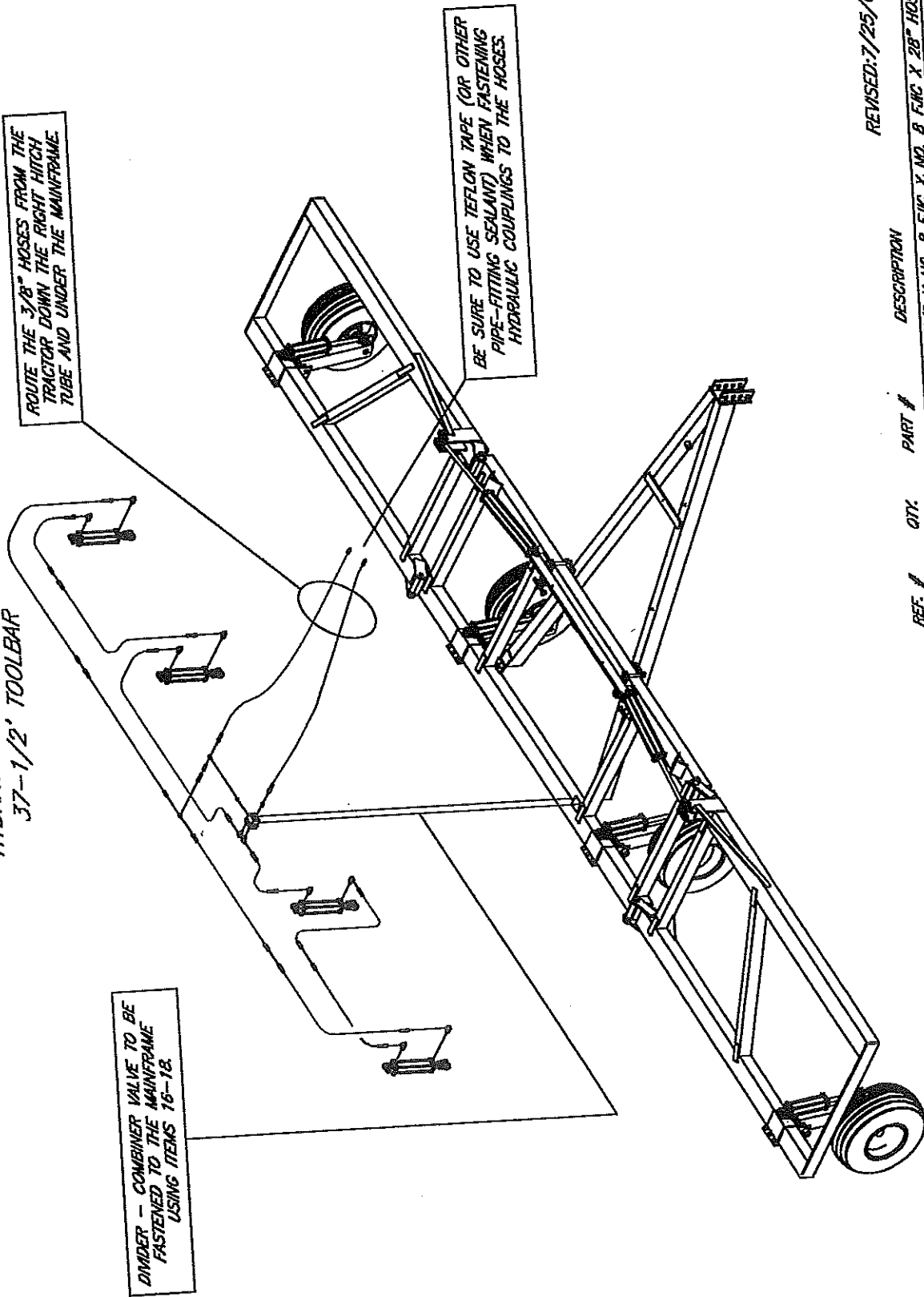


REFER TO NEXT PAGE
FOR PART IDENTIFICATION.

ROUTE THESE HOSES
ALONG THE RIGHT
HITCH TUBE AND
FASTEN THEM USING
THE HOLD-DOWN
BRACKETS PROVIDED.

DO NOT USE TEFLON TAPE OR THREAD
COMPOUND ON JIC FITTINGS. USE
TEFLON TAPE OR THREAD COMPOUND
ONLY ON TAPERED PIPE FITTINGS.

HYDRAULIC LIFT SYSTEM 37-1/2' TOOLBAR



DIVIDER - COMBINER VALVE TO BE FASTENED TO THE MAINFRAME USING ITEMS 16-18.

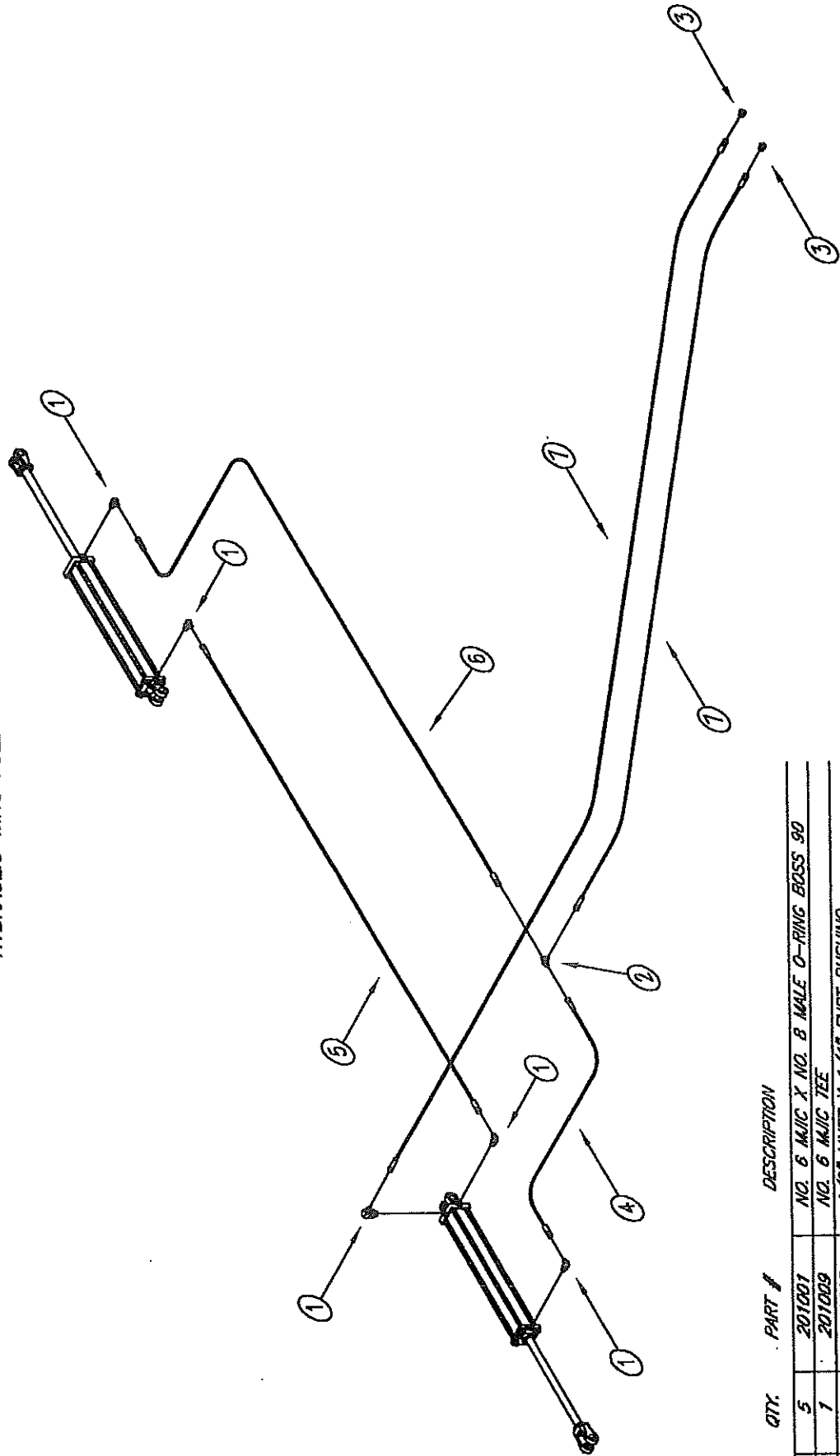
BE SURE TO USE TEFLON TAPE (OR OTHER PIPE-FITTING SEALANT) WHEN FASTENING HYDRAULIC COUPLINGS TO THE HOSES.

REF. #	QTY.	PART #	DESCRIPTION
1	1	203011	DIVIDER - COMBINER VALVE
2	2	201055	NO. 8 FHC X NO. 8 MALE O-RING SHIMSEL 90
3	1	201008	NO. 8 MHC X NO. 8 MALE O-RING
4	1	201058	NO. 8 FHC X NO. 8 MHC BRANCH TEE
5	1	201004	NO. 8 MHC X NO. 8 MALE O-RING
6	1	201010	NO. 8 MHC TEE
7	1	202147	3/8 X NO. 8 FHC X NO. 8 FHC X 6" HOSE
8	8	201002	NO. 8 MHC X NO. 8 MALE O-RING BOSS 90
			2 28 X NO. 8 FHC X NO. 8 MHC X 24" HOSE

REF. #	QTY.	PART #	DESCRIPTION
10	1	202124	3/8 X NO. 8 FHC X NO. 8 FHC X 28" HOSE
11	1	202128	3/8 X NO. 8 FHC X NO. 8 FHC X 96" HOSE
12	2	202152	3/8 X NO. 8 FHC X NO. 8 FHC X 144" HOSE
13	1	202193	3/8 X NO. 8 FHC X NO. 8 FHC X 166" HOSE
14	1	202111	3/8 X NO. 8 FHC X NO. 8 FHC X 216" HOSE
15	2	202134	3/8 X NO. 8 FHC X 1/2" MHP X 224" HOSE
16	2	101130	3/8-16 X 3-1/2" HEX BOLT
17	2	101220	3/8" LOCK WASHER
18	2	101211	3/8-16 HEX NUT

REVISED: 7/25/00

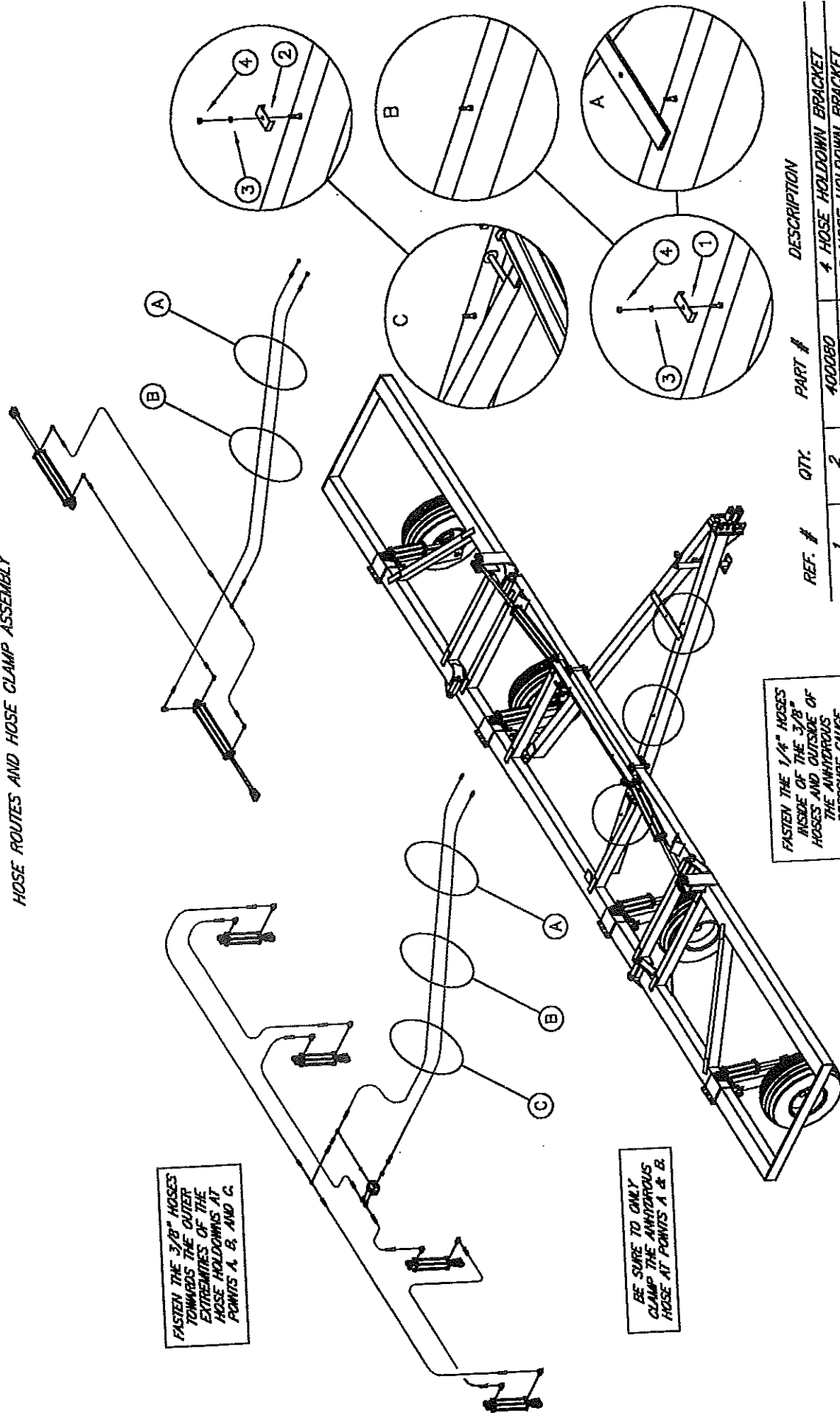
HYDRAULIC WING FOLD SYSTEM



REF. #	QTY.	PART #	DESCRIPTION
1	5	201001	NO. 6 M/JIC X NO. 8 MALE O-RING BOSS 90
2	1	201009	NO. 6 M/JIC TEE
3	2	201015	1/2" MNPT X 1/4" FNPT BUSHING
4	1	202137	1/4 X NO. 6 F/JIC X NO. 6 F/JIC X 28" HOSE
5	1	202138	1/4 X NO. 6 F/JIC X NO. 6 F/JIC X 80" HOSE
6	1	202048	1/4 X NO. 6 F/JIC X NO. 6 F/JIC X 108" HOSE
7	2	202123	1/4 X NO. 6 F/JIC X 3/8" MNPT X 174" HOSE

REVISED: 7/25/00

HOSE ROUTES AND HOSE CLAMP ASSEMBLY



FASTEN THE 3/8" HOSES
TOWARDS THE OUTER
EXTREMITIES OF THE
HOSE HOLDOWNS AT
POINTS A, B, AND C.

BE SURE TO ONLY
CLAMP THE ANTIKICK
HOSE AT POINTS A & B.

FASTEN THE 1/4" HOSES
INSIDE OF THE 3/8" HOSES
AND OUTSIDE OF THE
ANTI-KICK HOSE(S) AND THE WIRING
PRESSURE GAUGE
FOR THE IMPLEMENT
LIGHTS.

REF. #	QTY.	PART #	DESCRIPTION
1	2	400080	4 HOSE HOLDOWN BRACKET
2	1	400117	2 HOSE HOLDOWN BRACKET
3	3	101220	3/8" LOCK WASHER
4	3	101211	3/8-16 HEX NUT

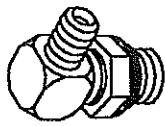
HYDRAULIC COMPONENTS



201015



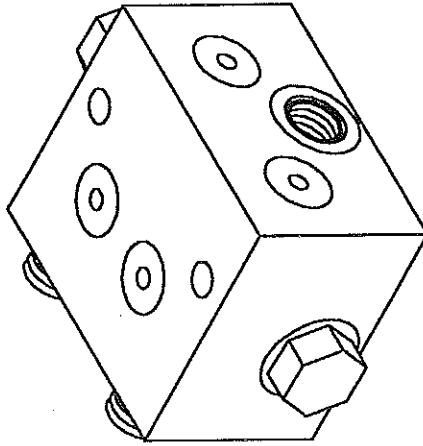
201009



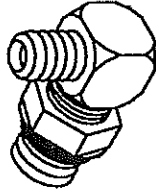
201001



201004



203011



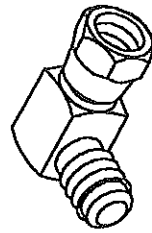
201008



201010



201008



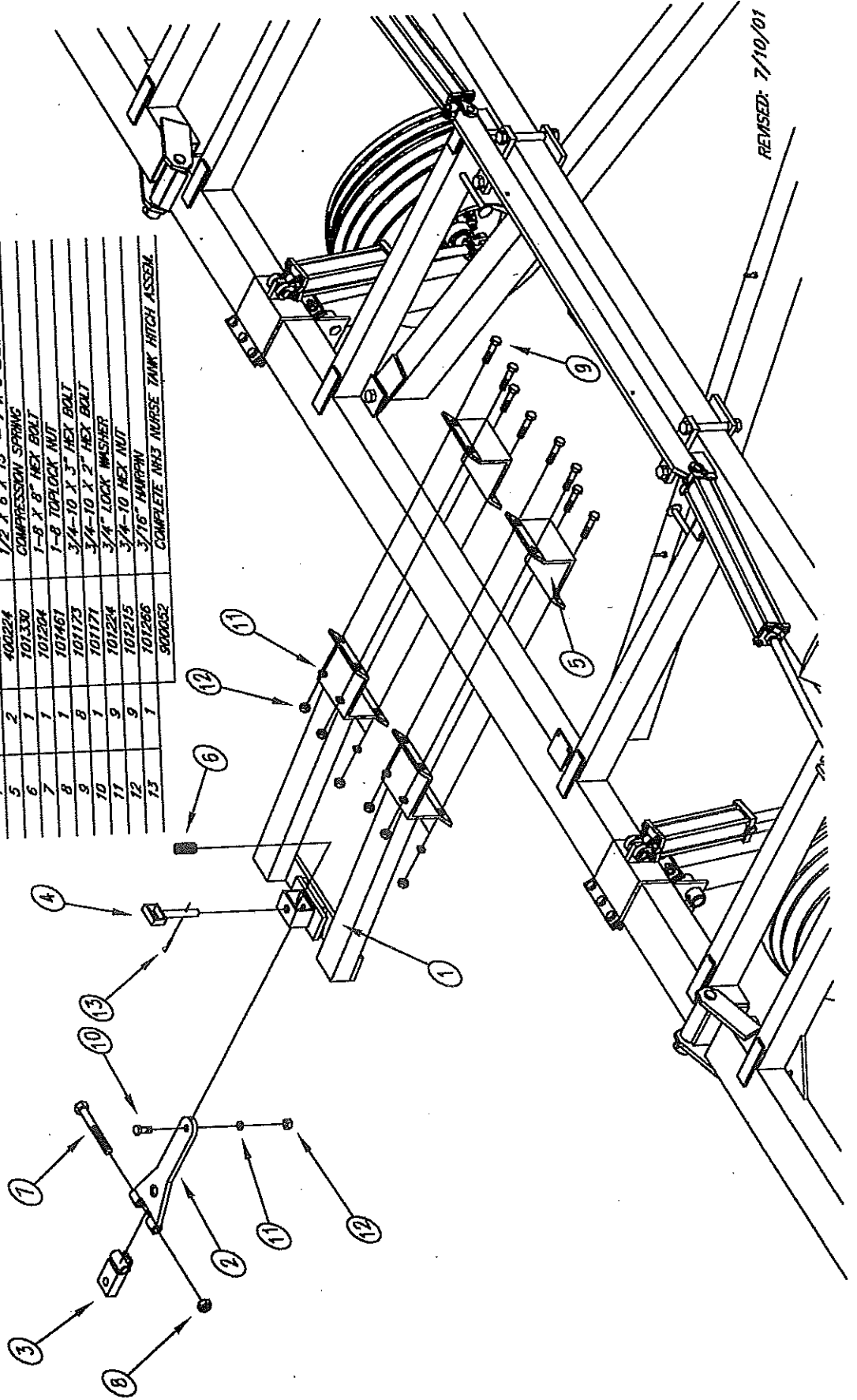
201055



201058

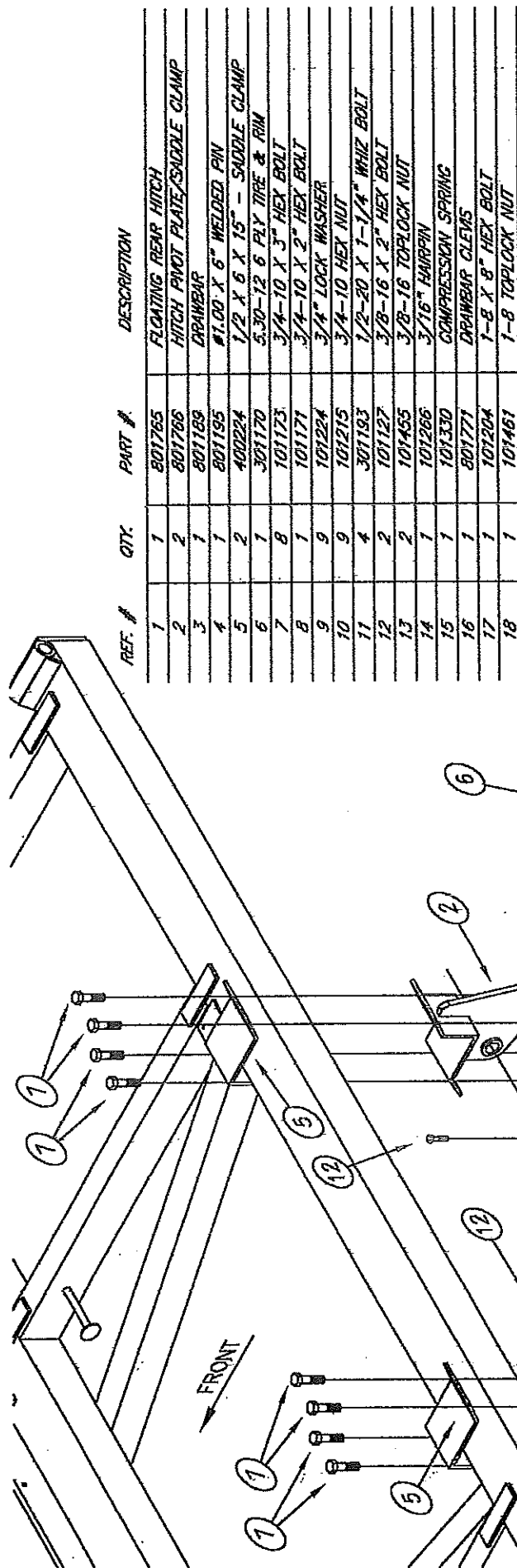
NURSE TRAILER HITCH ASSEMBLY

REF. #	QTY	PART #	DESCRIPTION
1	1	801087A	ANYDOROUS NURSE TRAILER HITCH
2	1	801189	DRUMBAR
3	1	801171	DRUMBAR CLEVIS
4	1	801165	#1.00 X 6" WELDED PIN
5	2	404224	1/2 X 6 X 15" - 7 X 5 SADDLE CLAMP
6	1	101300	COMPRESSION SPRING
7	1	101204	1-8 X 8" HEX BOLT
8	1	101461	1-8 TOPLOCK NUT
9	8	101173	3/4-10 X 3" HEX BOLT
10	8	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" HARPIN
		900032	COMPLETE INK3 NURSE TANK HITCH ASSEM.



REVISED: 7/10/01

FLOATING REAR HITCH ASSEMBLY



DESCRIPTION

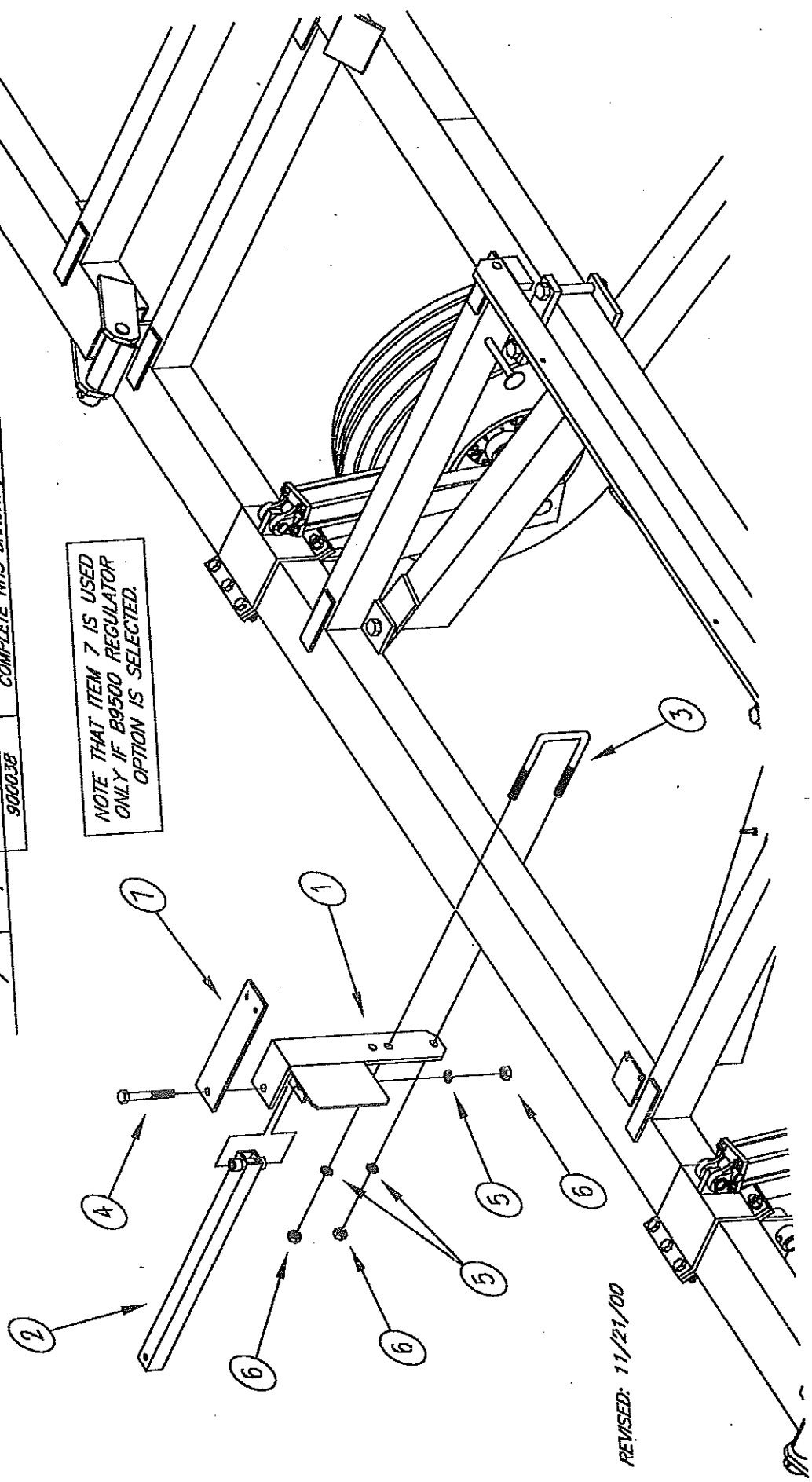
REF. #	QTY.	PART #	DESCRIPTION
1	1	801765	FLOATING REAR HITCH
2	2	801766	HITCH PIVOT PLATE/SADDLE CLAMP
3	1	801189	DRUMBAR
4	1	801195	#1.00 X 6" WELDED PIN
5	1	400224	1/2 X 6 X 15" - SADDLE CLAMP
6	1	301170	5.30-12 6 PLY TIRE & RIM
7	8	101173	3/4-10 X 3" HEX BOLT
8	1	101171	3/4-10 X 2" HEX BOLT
9	9	101224	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" HARPIN
15	1	101330	COMPRESSION SPRING
16	1	801771	DRUMBAR CLEVIS
17	1	101204	1-8 X 8" HEX BOLT
18	1	101461	1-8 TOPLOCK NUT

REVISED: 1/30/01

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

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

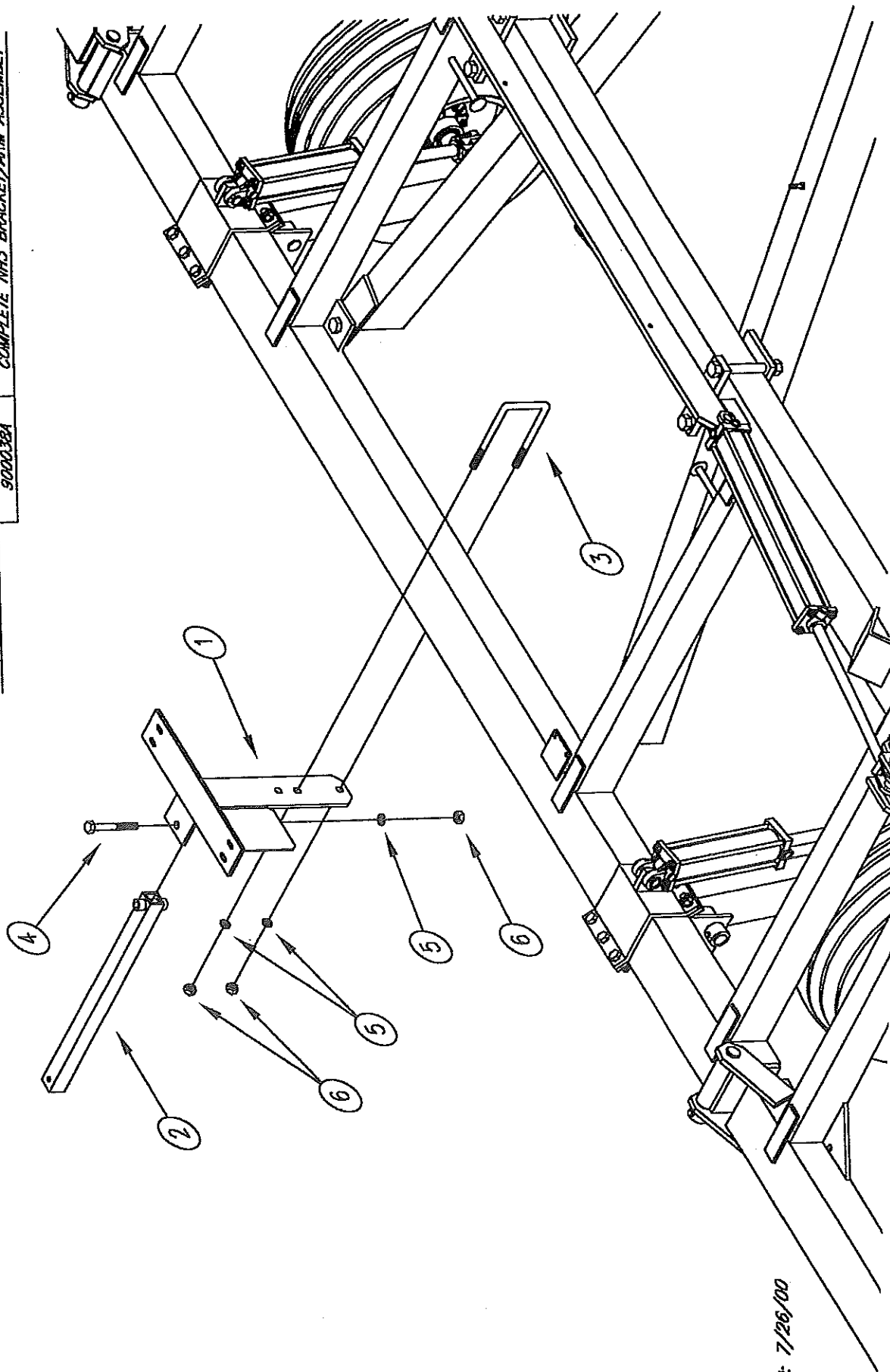


NOTE THAT ITEM 7 IS USED ONLY IF B9500 REGULATOR OPTION IS SELECTED.

REVISED: 11/21/00

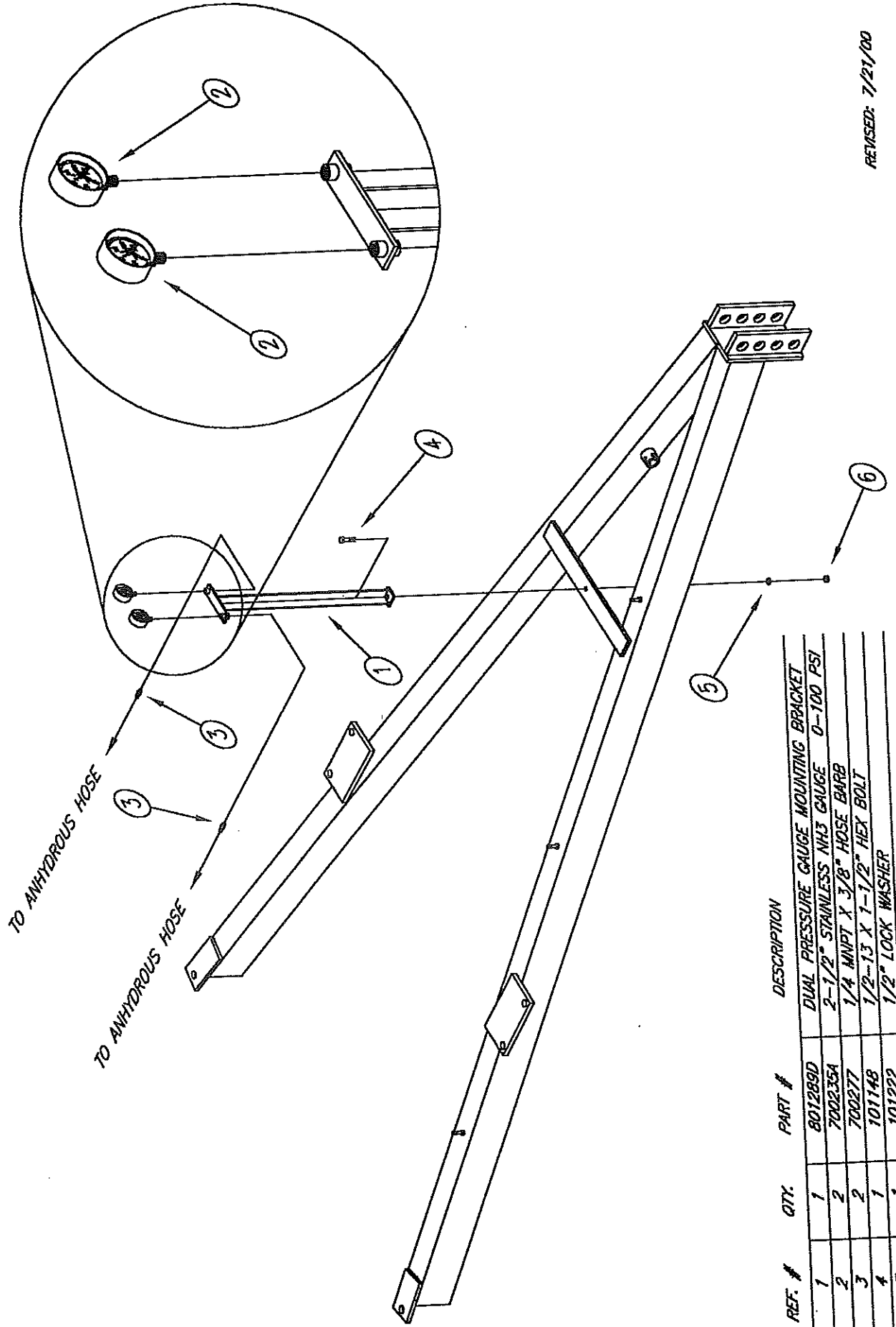
DUAL REGULATOR BRACKET ASSEMBLY

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
		9000384	COMPLETE NH3 BRACKET/ARM ASSEMBLY



REVISED: 7/26/00

DUAL GAUGE BRACKET ASSEMBLY

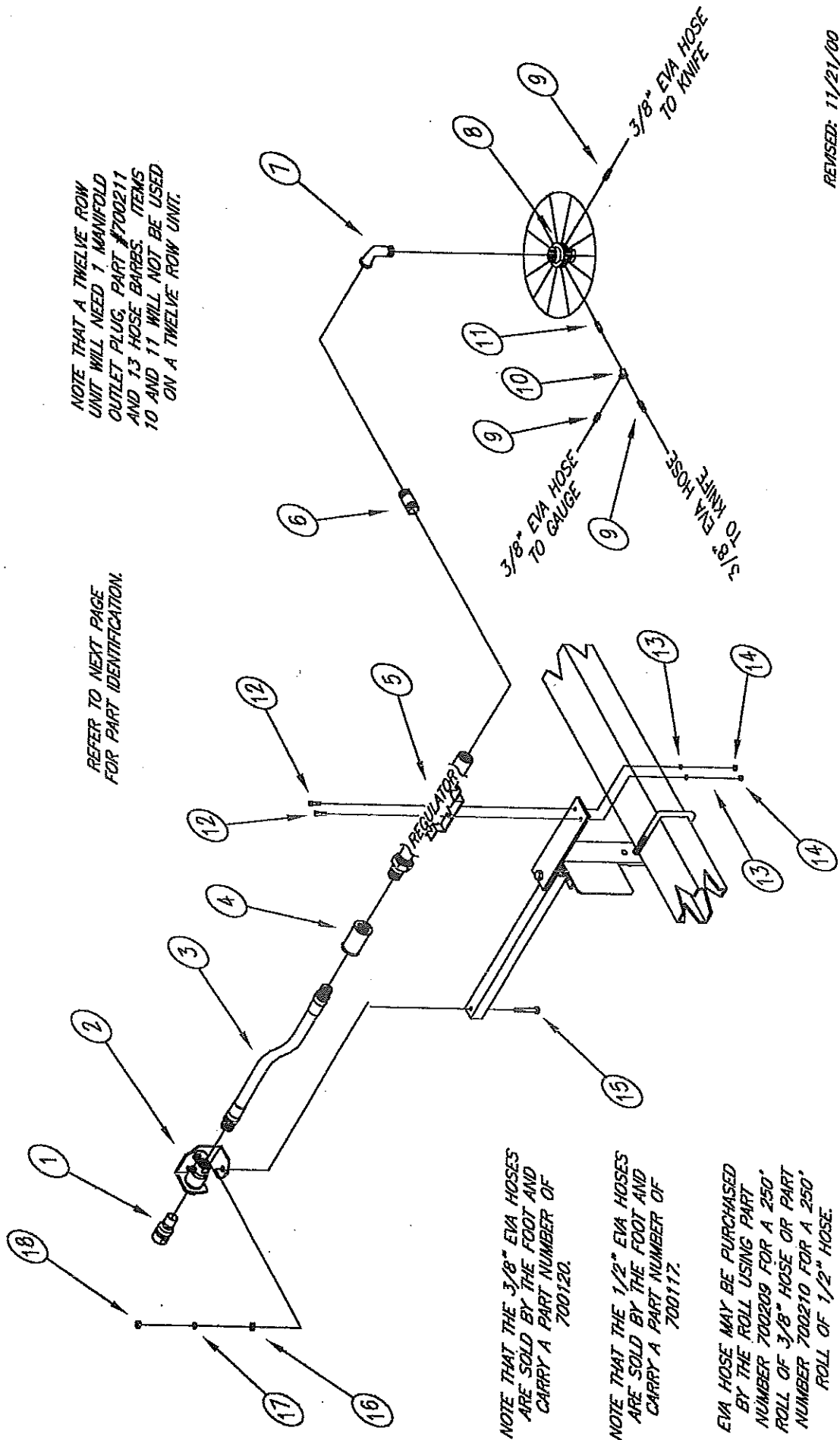


DESCRIPTION

REF. #	QTY.	PART #	DESCRIPTION
1	1	801289D	DUAL PRESSURE GAUGE MOUNTING BRACKET
2	2	700235A	2-1/2" STAINLESS NH3 GAUGE 0-100 PSI
3	2	700277	1/4 MNPT X 3/8" HOSE BARB
4	1	101148	1/2-13 X 1-1/2" HEX BOLT
5	1	101222	1/2" LOCK WASHER
6	1	101213	1/2-13 HEX NUT

REVISED: 7/21/00

1300 NH3 PLUMBING SCHEMATIC SINGLE REGULATOR/SINGLE MANIFOLD



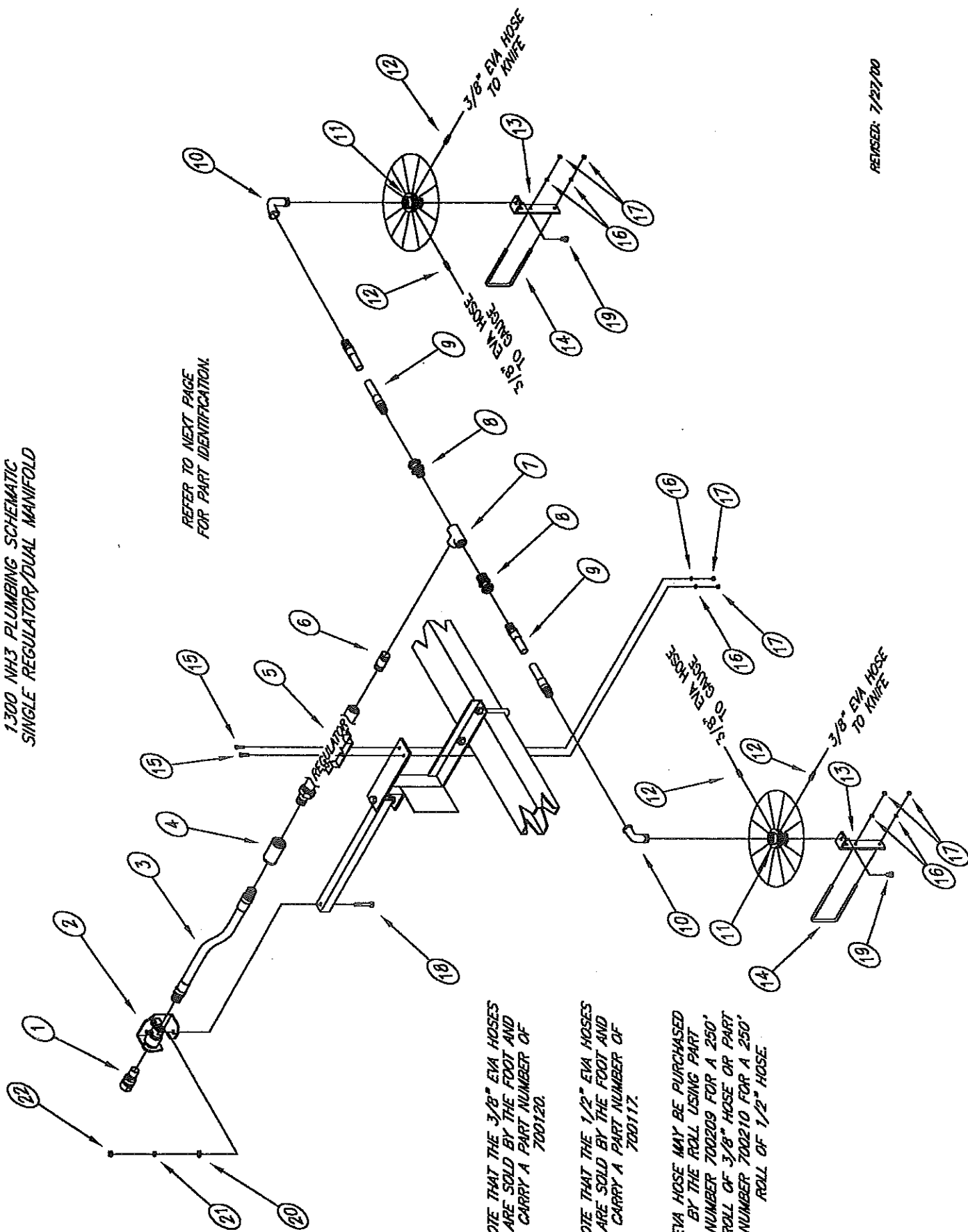
1300 NH3 PLUMBING SCHEMATIC
SINGLE REGULATOR/SINGLE MANIFOLD

REF. #	QTY.	PART #	DESCRIPTION
1	1	700278	1-1/4" MALE COUPLER TIP (NH3)
2	1	700276	1-1/4" QUICK COUPLER ASSEMBLY
3	1	700274	1-1/4" AA HOSE X 32" LONG
4	1	700275	1-1/4" SCHEDULE 80 COUPLER
5	1	700273	NH3/B9500 METER W/ HYDRAULIC SHUT-OFF
6	1	700257	1" CLOSE NIPPLE - BLACK PIPE
7	1	700256	1" ST. ELBOW - BLACK PIPE
8	1	700272	NH3 MANIFOLD - 14 OUTLET
9	13-15	700277	1/4" MNPT X 3/8" HOSE BARB
10	0-1	700215	1/4" FNPT TEE - BLACK PIPE
11	0-1	700226	1/4" MNPT NIPPLE - 1-1/2" LONG
12	2	101125	3/8-16 X 1" HEX BOLT
13	2	101220	3/8" LOCK WASHER
14	2	101211	3/8-16 HEX NUT
15	1	101152	1/2-13 X 3-1/2" HEX BOLT
16	1	101231	1/2" FLAT WASHER
17	1	101222	1/2" LOCK WASHER
18	1	101213	1/2-13 HEX NUT
**	0-1	700211	1/4" MNPT X 1/2" LONG MANIFOLD PLUG

** NOTE THAT A TWELVE ROW UNIT WILL NEED 1 MANIFOLD
OUTLET PLUG AND 13 HOSE BARBS. ITEMS 10 & 11 WILL
NOT BE USED ON A TWELVE ROW UNIT.

REVISED: 7/10/01

1300 NH3 PLUMBING SCHEMATIC
SINGLE REGULATORY/DUAL MANIFOLD



1300 NH3 PLUMBING SCHEMATIC
SINGLE REGULATOR/DUAL MANIFOLD

REF. #	QTY.	PART #	DESCRIPTION
1	1	700278	1-1/4" MALE COUPLER TIP (NH3)
2	1	700276	1-1/4" QUICK COUPLER ASSEMBLY
3	1	700274	1-1/4" AA HOSE X 32" LONG
4	1	700275	1-1/4" SCHEDULE 80 COUPLER
5	1	700273	NH3/B9500 METER W/ HYDRAULIC SHUT-OFF
6	1	700257	1" CLOSE NIPPLE - BLACK PIPE
7	1	700227	1" FNPT TEE - BLACK PIPE
8	2	700306	1" MNPT X 1" FNPT SWIVEL COUPLER
9	2	700274A	1" AA HOSE X 120" LONG
10	2	700256	1" ST. ELBOW - BLACK PIPE
11	2	700272	NH3 MANIFOLD - 14 OUTLET
12	17	700277	1/4 MNPT X 3/8" HOSE BARB
13	2	400142	3/8 X 2 X 12-1/2" MANIFOLD BRACKET
14	2	101417	3/8-16 X 5 X 8-1/2" U-BOLT
15	2	101125	3/8-16 X 1" HEX BOLT
16	6	101220	3/8" LOCK WASHER
17	6	101211	3/8-16 HEX NUT
18	1	101152	1/2-13 X 3-1/2" HEX BOLT
19	2	101397	1/2-13 X 3/4" HEX BOLT
20	1	101231	1/2" FLAT WASHER
21	1	101222	1/2" LOCK WASHER
22	1	101213	1/2-13 HEX NUT
-	11	700211	1/4" MNPT X 1/2" LONG MANIFOLD PLUG

REVISED: 7/26/00

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

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.

REVISED: 7/27/00

**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.

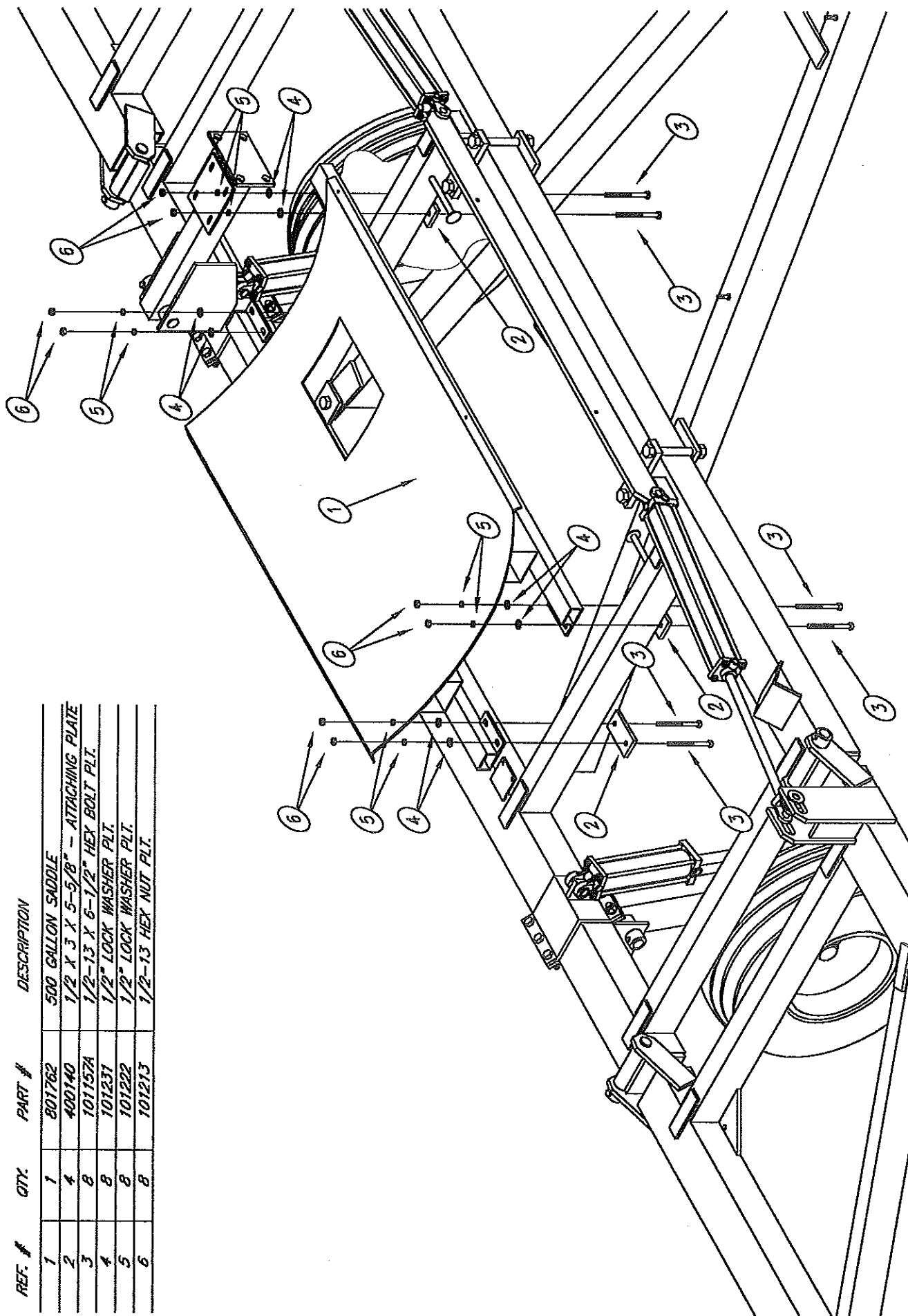
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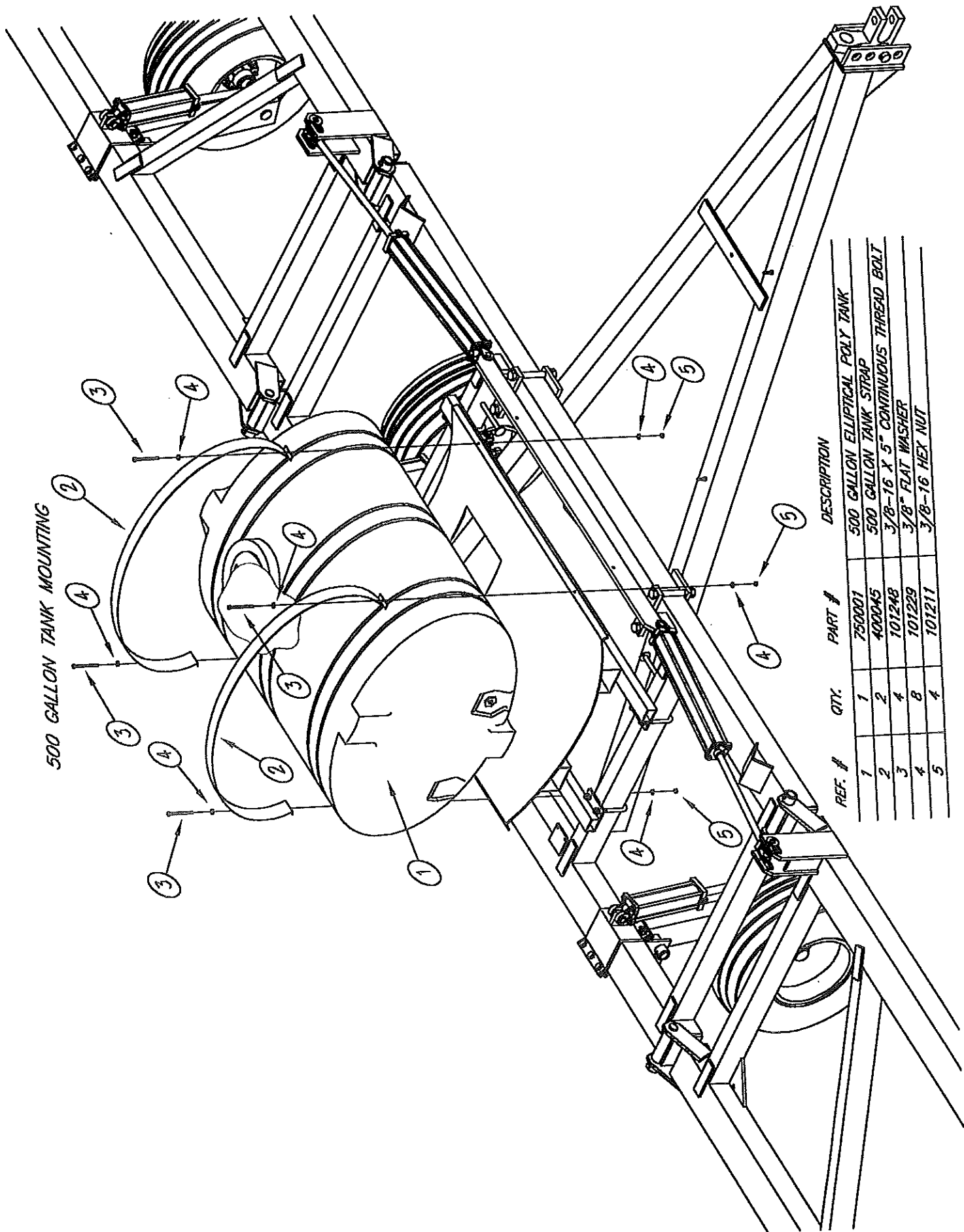
1300 NH3 PLUMBING SCHEMATIC
DUAL REGULATOR/DUAL MANIFOLD

REF. #	QTY.	PART #	DESCRIPTION
1	1	700278	1-1/4" MALE COUPLER TIP (NH3)
2	1	700276	1-1/4" QUICK COUPLER ASSEMBLY
3	1	700274	1-1/4" AA HOSE X 32" LONG
4	1	700255	1-1/4" BLACK MI TEE
5	2	700273	NH3/B9500 METER W/ HYDRAULIC SHUT-OFF
6	2	700306	1" MNPT X 1" FNPT SWIVEL COUPLER
7	2	700274A	1" AA HOSE X 120" LONG
8	2	700256	1" ST. ELBOW - BLACK PIPE
9	2	700272	NH3 MANIFOLD - 14 OUTLET
10	2	400142	3/8 X 2 X 12-1/2" MANIFOLD BRACKET
11	22-24	700277	1/4" MNPT X 3/8" HOSE BARB
12	2	101417	3/8-16 X 5 X 8-1/2" U-BOLT
13	4	101125	3/8-16 X 1" HEX BOLT
14	8	101220	3/8" LOCK WASHER
15	8	101211	3/8-16 HEX NUT
16	1	101152	1/2-13 X 3-1/2" HEX BOLT
17	2	101397	1/2-13 X 3/4" HEX BOLT
18	1	101231	1/2" FLAT WASHER
19	1	101222	1/2" LOCK WASHER
20	1	101213	1/2-13 HEX NUT

1300 TANK SADDLE INSTALLATION

REF. #	QTY.	PART #	DESCRIPTION
1	1	801762	500 GALLON SADDLE
2	4	400140	1/2 X 3 X 5-5/8" - ATTACHING PLATE
3	8	101157A	1/2-13 X 6-1/2" HEX BOLT PLT.
4	8	101231	1/2" LOCK WASHER PLT.
5	8	101222	1/2" LOCK WASHER PLT.
6	8	101213	1/2-13 HEX NUT PLT.

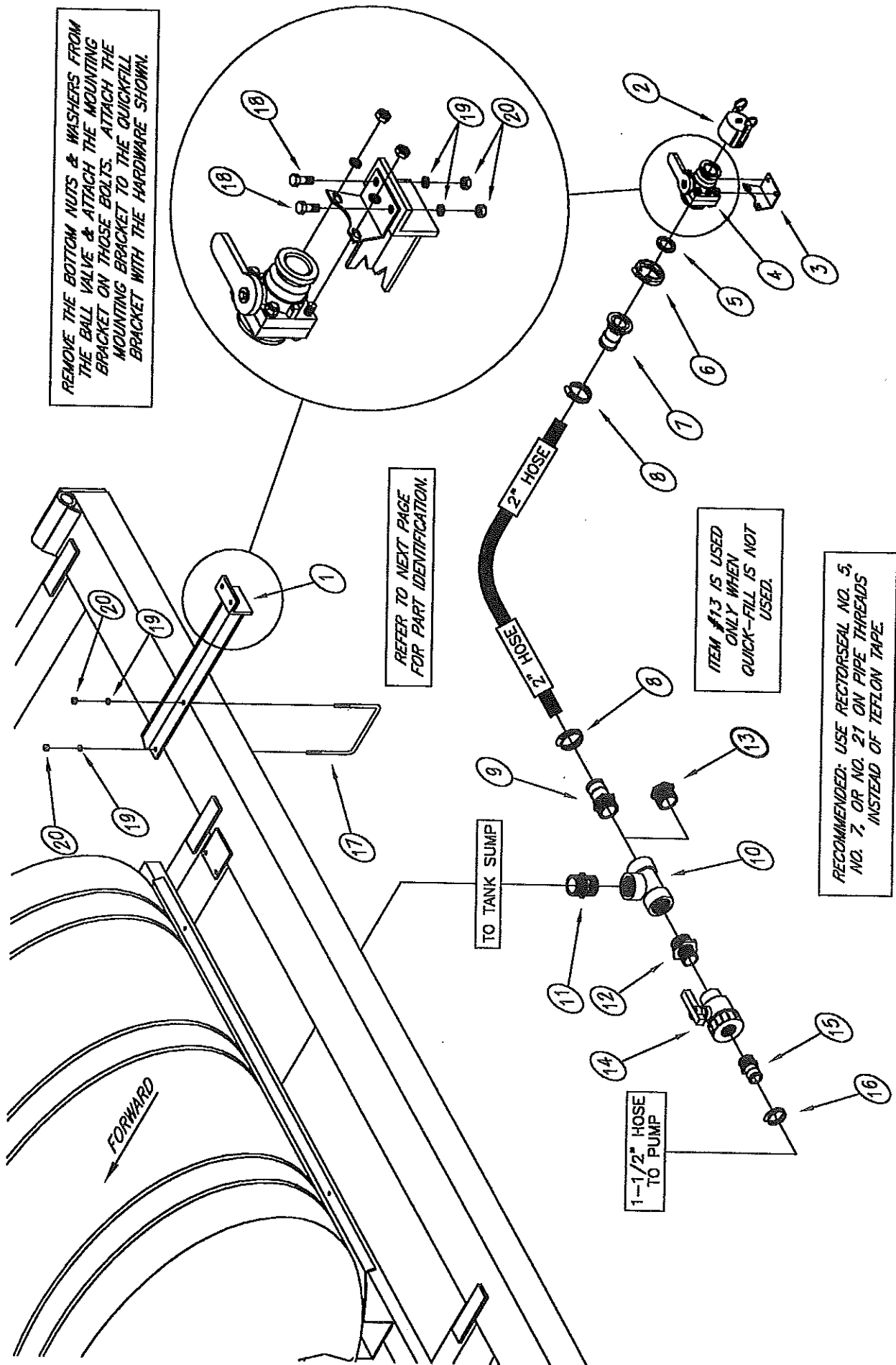




500 GALLON TANK MOUNTING

REF. #	QTY.	PART #	DESCRIPTION
1	1	750001	500 GALLON ELLIPTICAL POLY TANK
2	2	400045	500 GALLON TANK STRAP
3	4	101248	3/8-16 X 5" CONTINUOUS THREAD BOLT
4	8	101229	3/8" FLAT WASHER
5	4	101211	3/8-16 HEX NUT

OPTIONAL QUICK-FILL PLUMBING SCHEMATIC



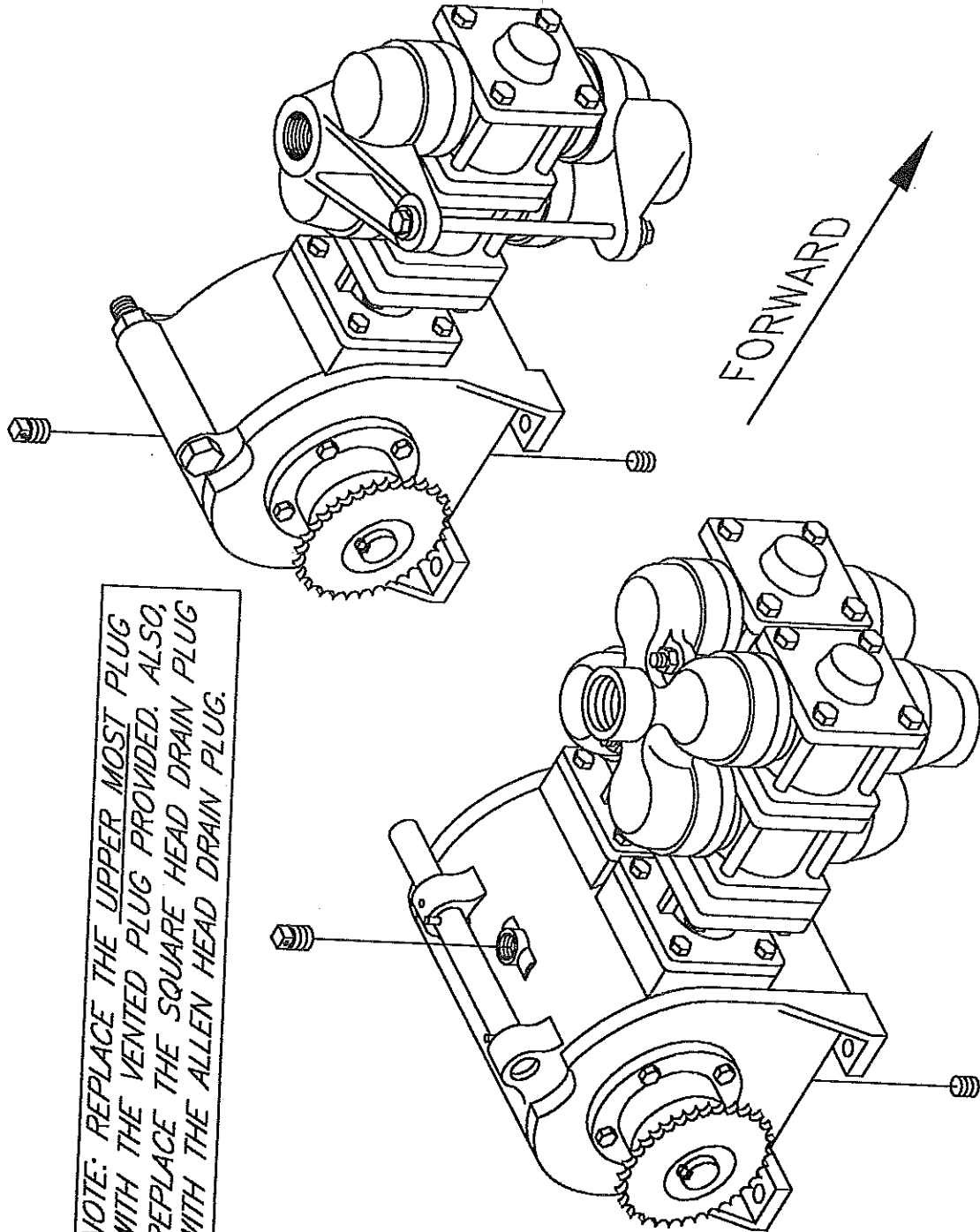
1500 OPTIONAL QUICKFILL PLUMBING SCHEMATIC

REF. #	QTY.	PART #	DESCRIPTION
1	1	801554	QUICKFILL BRACKET
2	1	700191	2" CAP FOR MALE ADAPTER
3	1	700192	90° STAINLESS MOUNTING BRACKET
4	1	700190	2" MALE ADAPTER X 2" C-FLANGE
5	1	700189	2" EPDM GASKET
6	1	700188	2" WORM SCREW CLAMP
7	1	700187	2" FLANGE X 2" HOSE BARB
8	2	700130	2" STAINLESS HOSE CLAMP
9	1	700015	2" NPT X 2" HOSE BARB
10	1	700077	2" NPT TEE
11	1	700038	2" NPT CLOSE NIPPLE
12	1	700186	2" NPT X 1-1/2" NPT REDUCING NIPPLE
**13	1	700085	2" NPT PLUG
14	1	700171A	1-1/2" NPT GATE VALVE
15	1	700014	1-1/2" NPT X 1-1/2" HOSE BARB
16	1	700129	1-1/2" STAINLESS HOSE CLAMP
17	1	101371	3/8-16 X 7 X 6" U-BOLT
18	2	101125	3/8-16 X 1" HEX BOLT
19	4	101220	3/8" LOCK WASHER
20	4	101211	3/8-16 HEX NUT

** ITEM #13 IS USED ONLY WHEN THE QUICKFILL OPTION IS NOT USED.

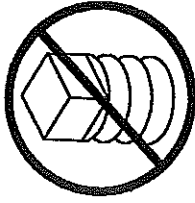
NOTE THAT 1-1/2" EPDM HOSE IS SOLD BY THE FOOT USING PART # 700121.

GROUND DRIVE PUMP ASSEMBLY



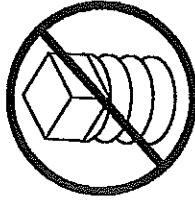
NOTE: REPLACE THE UPPER MOST PLUG WITH THE VENTED PLUG PROVIDED. ALSO, REPLACE THE SQUARE HEAD DRAIN PLUG WITH THE ALLEN HEAD DRAIN PLUG.

UPPER PLUG



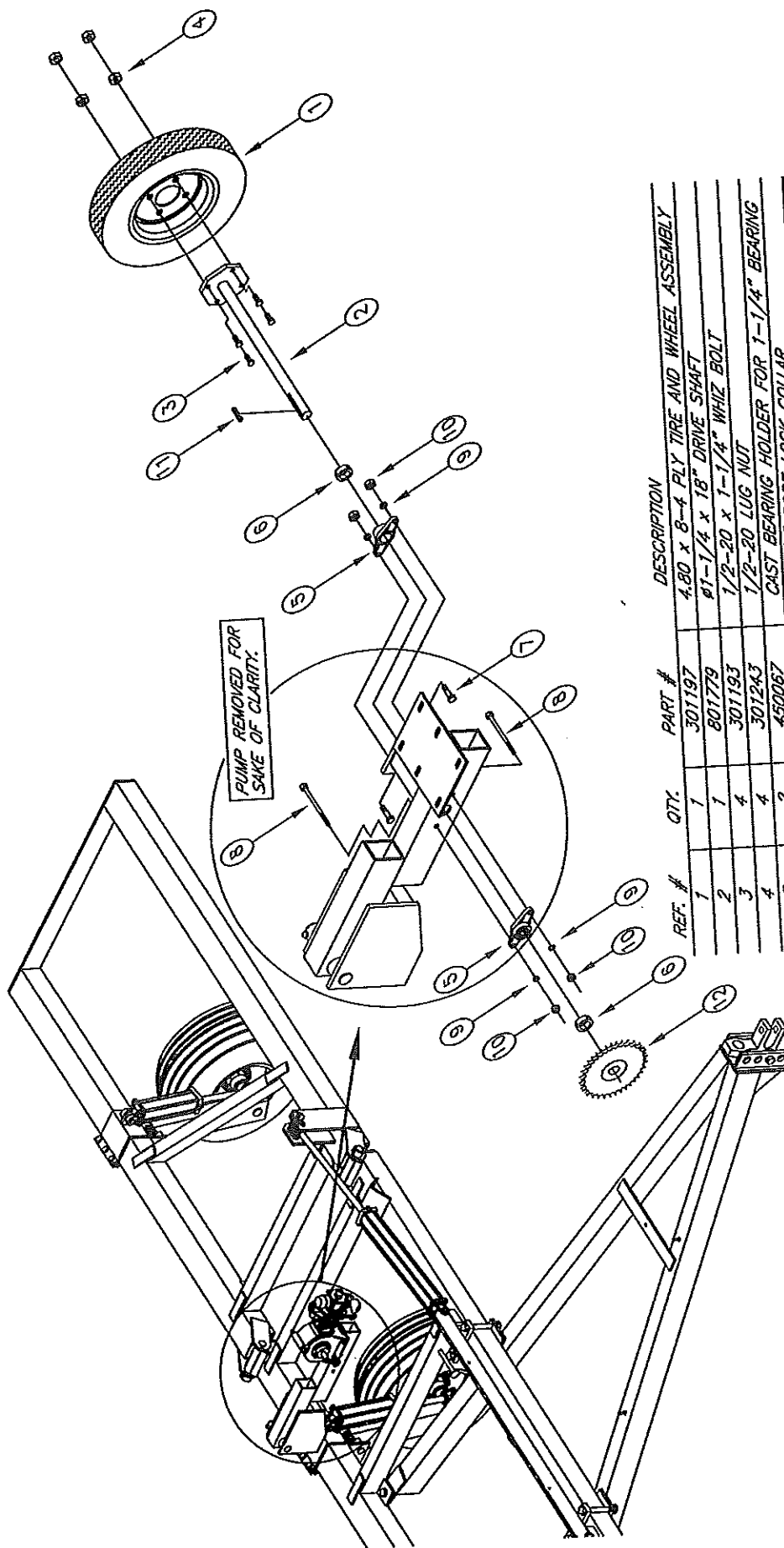
YES

LOWER DRAIN



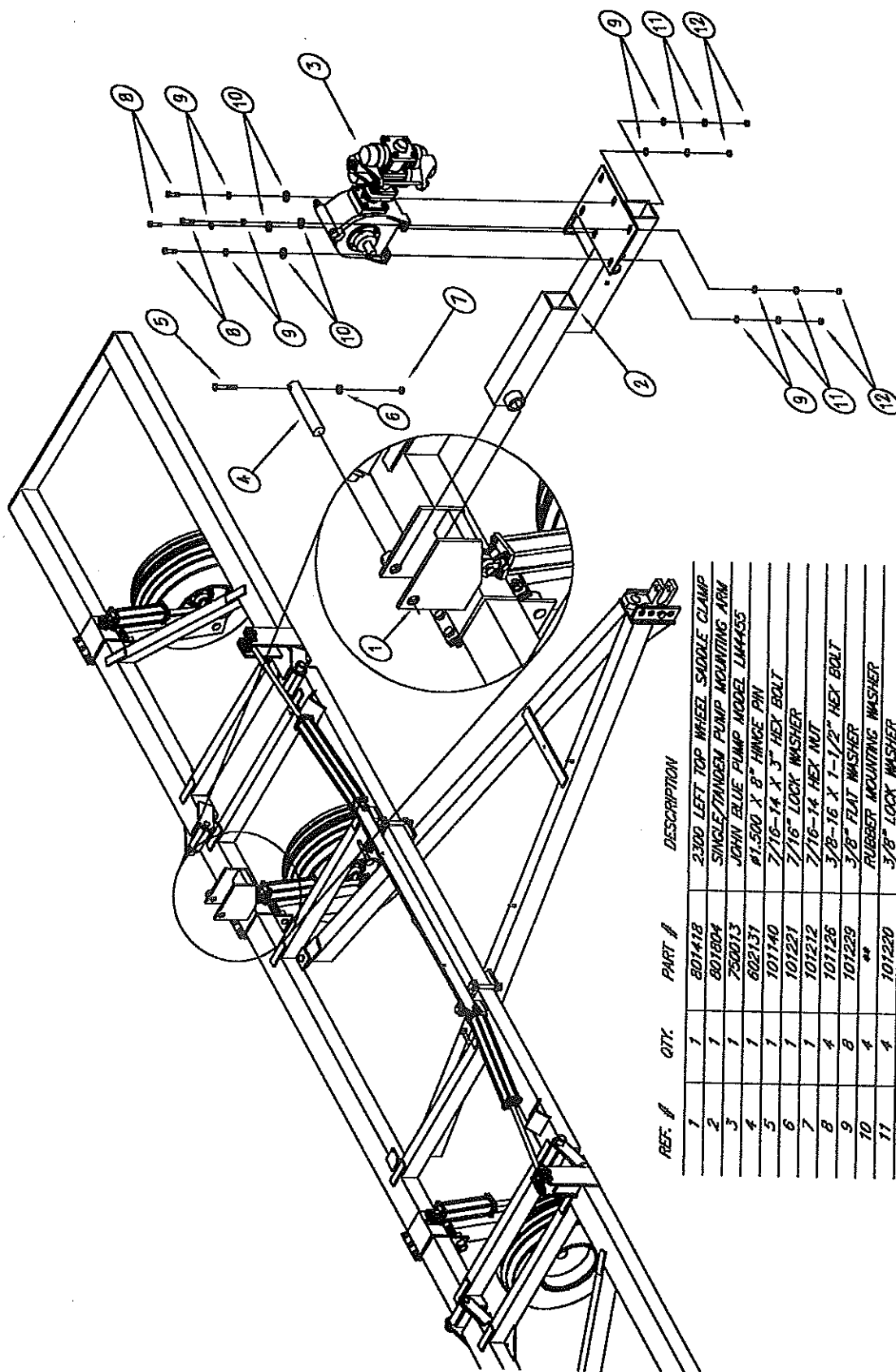
YES

PUMP DRIVE ASSEMBLY



REF. #	QTY.	PART #	DESCRIPTION
1	1	301197	4.80 x 8-4 PLY TIRE AND WHEEL ASSEMBLY
2	1	801779	#1-1/4 x 18" DRIVE SHAFT
3	4	301193	1/2-20 x 1-1/4" WHIZ BOLT
4	4	301243	1/2-20 LUG NUT
5	2	450067	CAST BEARING HOLDER FOR 1-1/4" BEARING
6	2	450066	1-1/4" BORE LOCK COLLAR
7	2	101138	7/16-14 X 2" HEX BOLT PLT.
8	2	101143	7/16-14 X 4-1/2" HEX BOLT PLT.
9	4	101221	7/16" LOCK WASHER PLT.
10	4	101212	7/16-14 HEX NUT PLT.
11	1	450010	1/4" SQ. X 1-1/2" KEY
12	1	450065	NO. 50 X 36 TOOTH SPROCKET-1-1/4" BORE
-	1	101455	NO. 50 S.S. ROLLER CHAIN - 33-1/2"
-	1	101429	NO. 50 S.S. ROLLER CHAIN - MASTER LINK

JOHN BLUE PUMP INSTALLATION



REF. # QTY. PART # DESCRIPTION

1	1	801418	2300 LEFT TOP WHEEL SADDLE CLAMP
2	1	801804	SINGLE/TANDEM PUMP MOUNTING ARM
3	1	750013	JOHN BLUE PUMP MODEL LM4435
4	1	802131	#1.500 X 8" HINGE PIN
5	1	101140	7/16-14 X 3" HEX BOLT
6	1	101221	7/16" LOCK WASHER
7	1	101212	7/16-14 HEX NUT
8	4	101226	3/8-16 X 1-1/2" HEX BOLT
9	8	101229	3/8" FLAT WASHER
10	4	**	RUBBER MOUNTING WASHER
11	4	101220	3/8" LOCK WASHER
12	4	101211	3/8-16 HEX NUT

** INCLUDED WITH JOHN BLUE PUMP

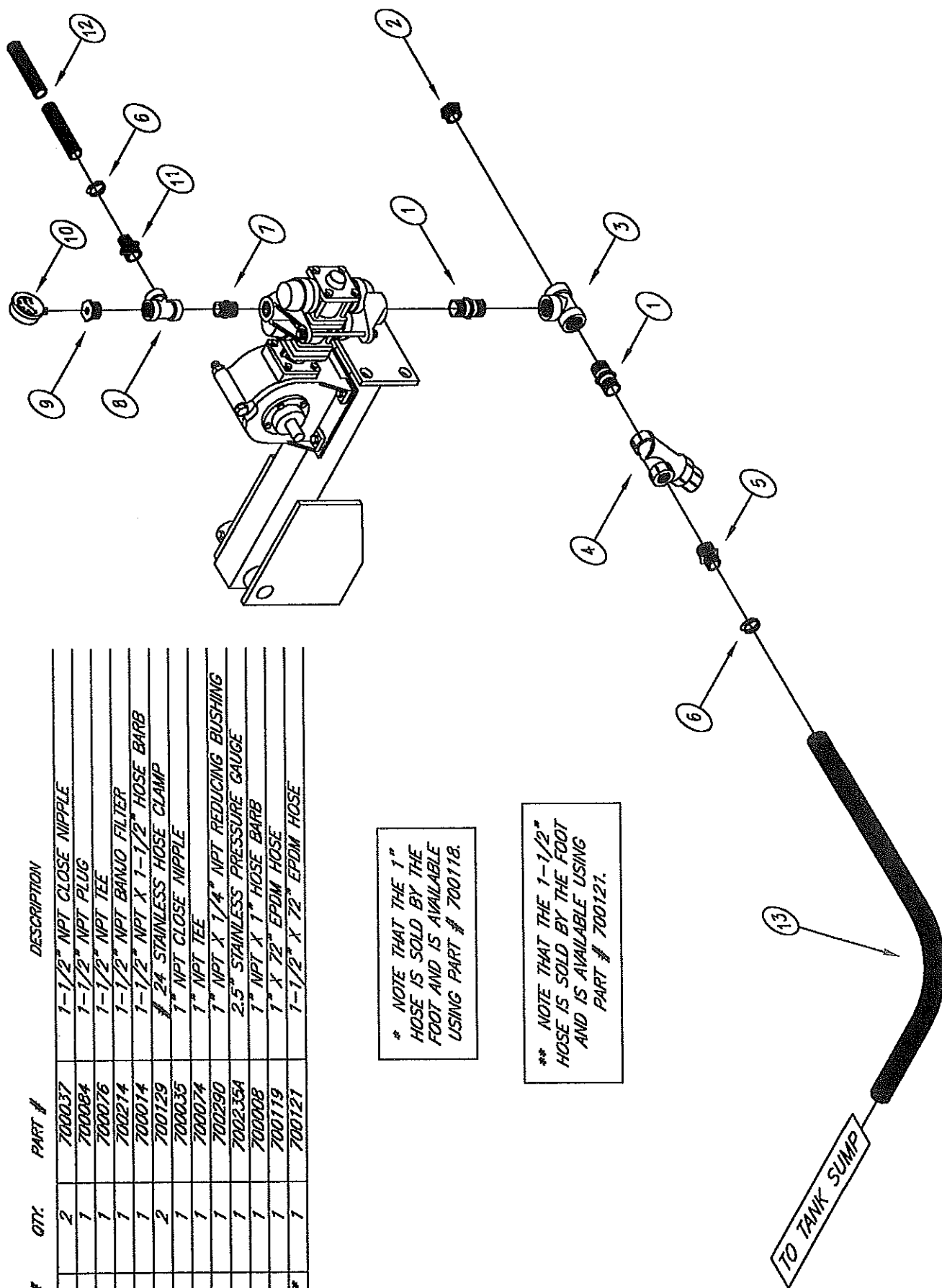
REV: 6/29/01

JOHN BLUE PUMP PLUMBING SCHEMATIC

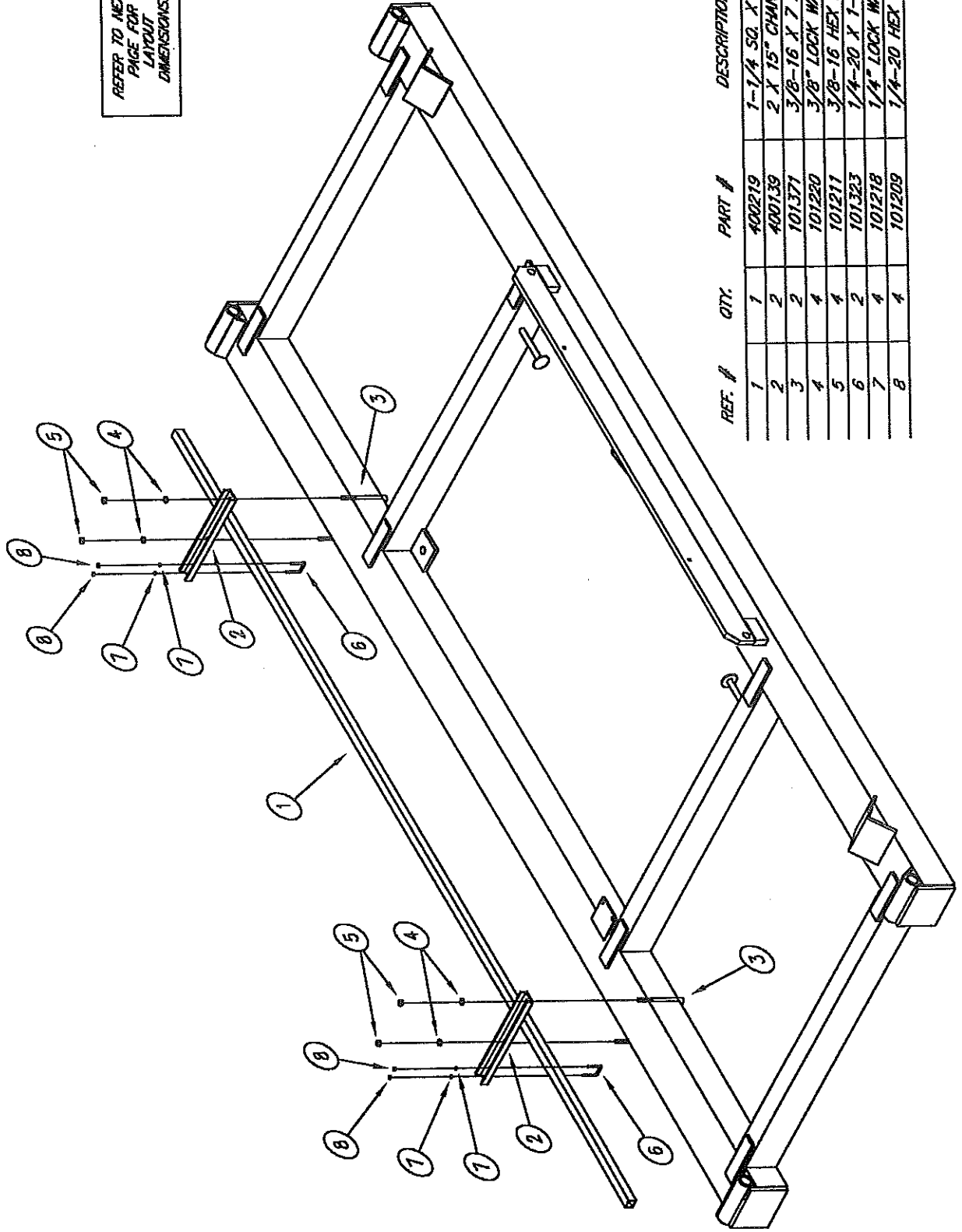
REF. #	QTY	PART #	DESCRIPTION
1	2	700037	1-1/2" NPT CLOSE NIPPLE
2	1	700084	1-1/2" NPT PLUG
3	1	700076	1-1/2" NPT TEE
4	1	700214	1-1/2" NPT BANGLO FILTER
5	1	700014	1-1/2" NPT X 1-1/2" HOSE BARB
6	2	700129	# 24 STAINLESS HOSE CLAMP
7	1	700035	1" NPT CLOSE NIPPLE
8	1	700074	1" NPT TEE
9	1	700290	1" NPT X 1/4" NPT REDUCING BUSHING
10	1	700235A	2.5" STAINLESS PRESSURE GAUGE
11	1	700008	1" NPT X 1" HOSE BARB
12 *	1	700119	1" X 72" EPDM HOSE
13 **	1	700121	1-1/2" X 72" EPDM HOSE

* NOTE THAT THE 1" HOSE IS SOLD BY THE FOOT AND IS AVAILABLE USING PART # 700118.

** NOTE THAT THE 1-1/2" HOSE IS SOLD BY THE FOOT AND IS AVAILABLE USING PART # 700121.

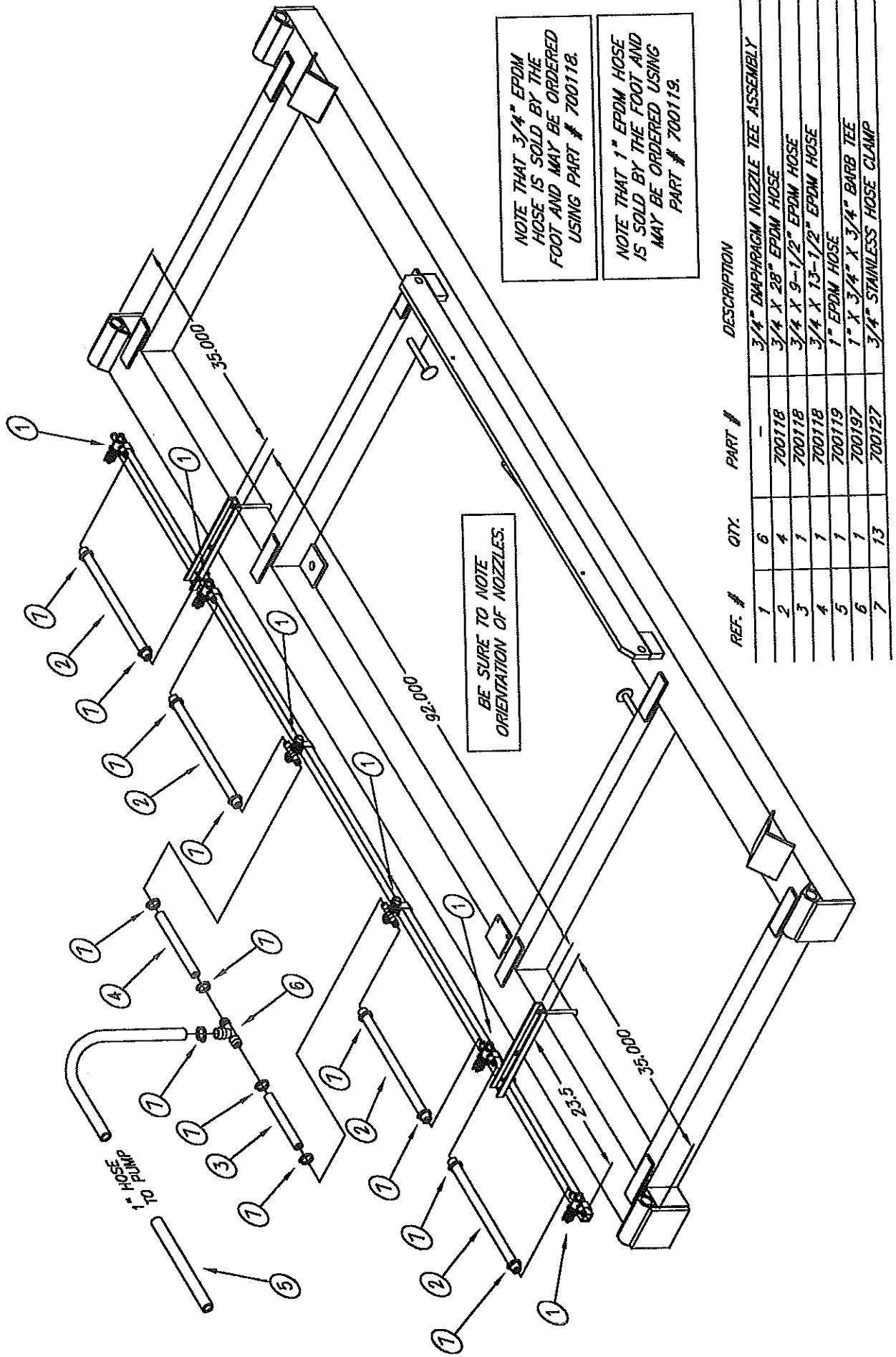


MANIFOLD MANIFOLD ASSEMBLY



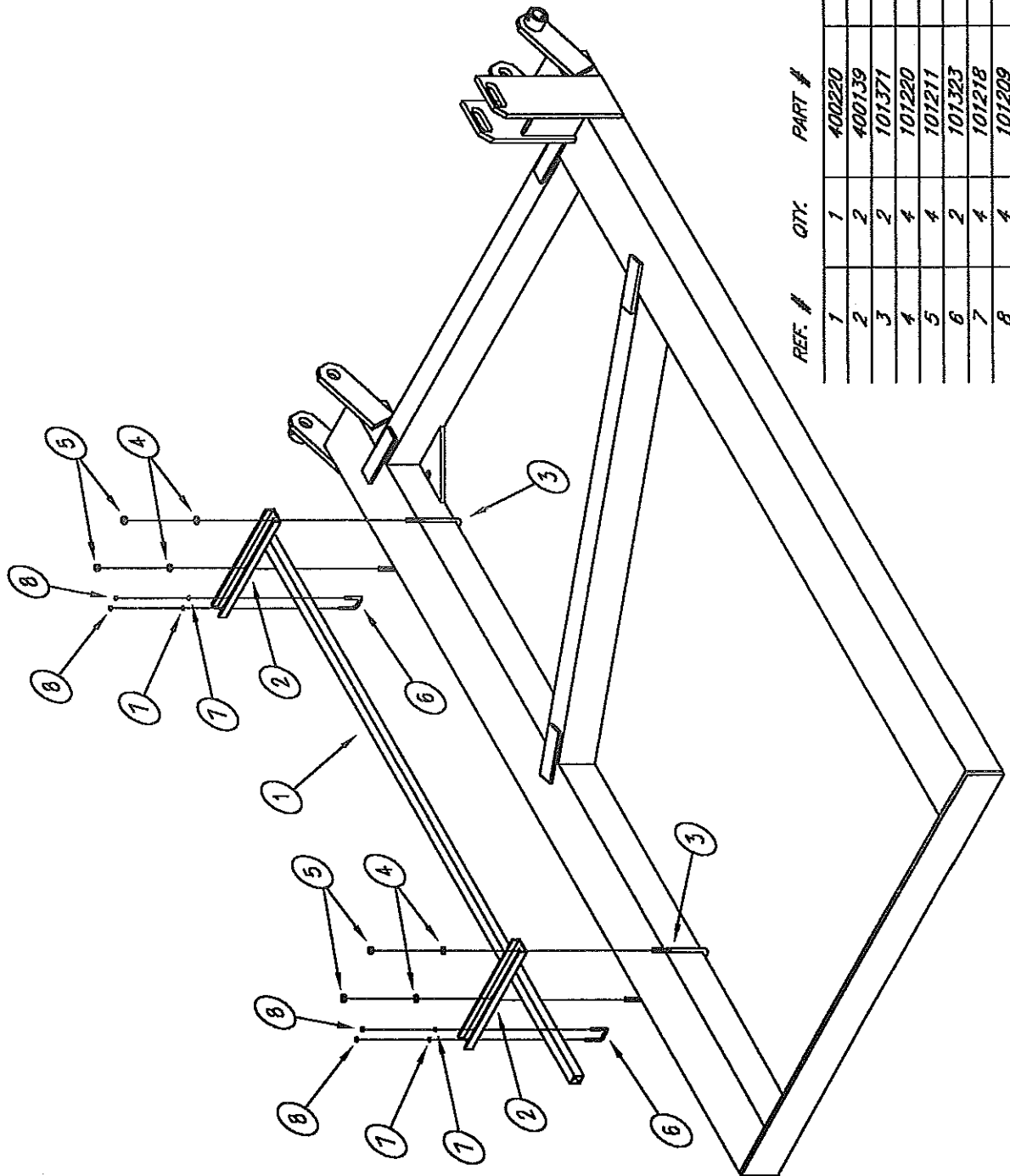
REF. #	QTY.	PART #	DESCRIPTION
1	1	400219	1-1/4 SQ. X 144" MANIFOLD MANIFOLD
2	2	400139	2 X 15" CHANNEL -- MOUNTING BRACKET
3	2	101371	3/8-16 X 7 X 6" U-BOLT
4	4	101280	3/8" LOCK WASHER
5	4	101211	3/8-16 HEX NUT
6	2	101323	1/4-20 X 1-1/4 X 2" U-BOLT
7	4	101218	1/4" LOCK WASHER
8	4	101209	1/4-20 HEX NUT

MAINFRAME PLUMBING SCHEMATIC



REF. #	QTY.	PART #	DESCRIPTION
1	6	-	3/4" DIAPHRAGM NOZZLE TEE ASSEMBLY
2	4	700118	3/4" X 28" EPDM HOSE
3	1	700118	3/4" X 9-1/2" EPDM HOSE
4	1	700118	3/4" X 13-1/2" EPDM HOSE
5	1	700119	1" EPDM HOSE
6	1	700197	1" X 3/4" X 3/4" BARB TEE
7	13	700127	3/4" STAINLESS HOSE CLAMP

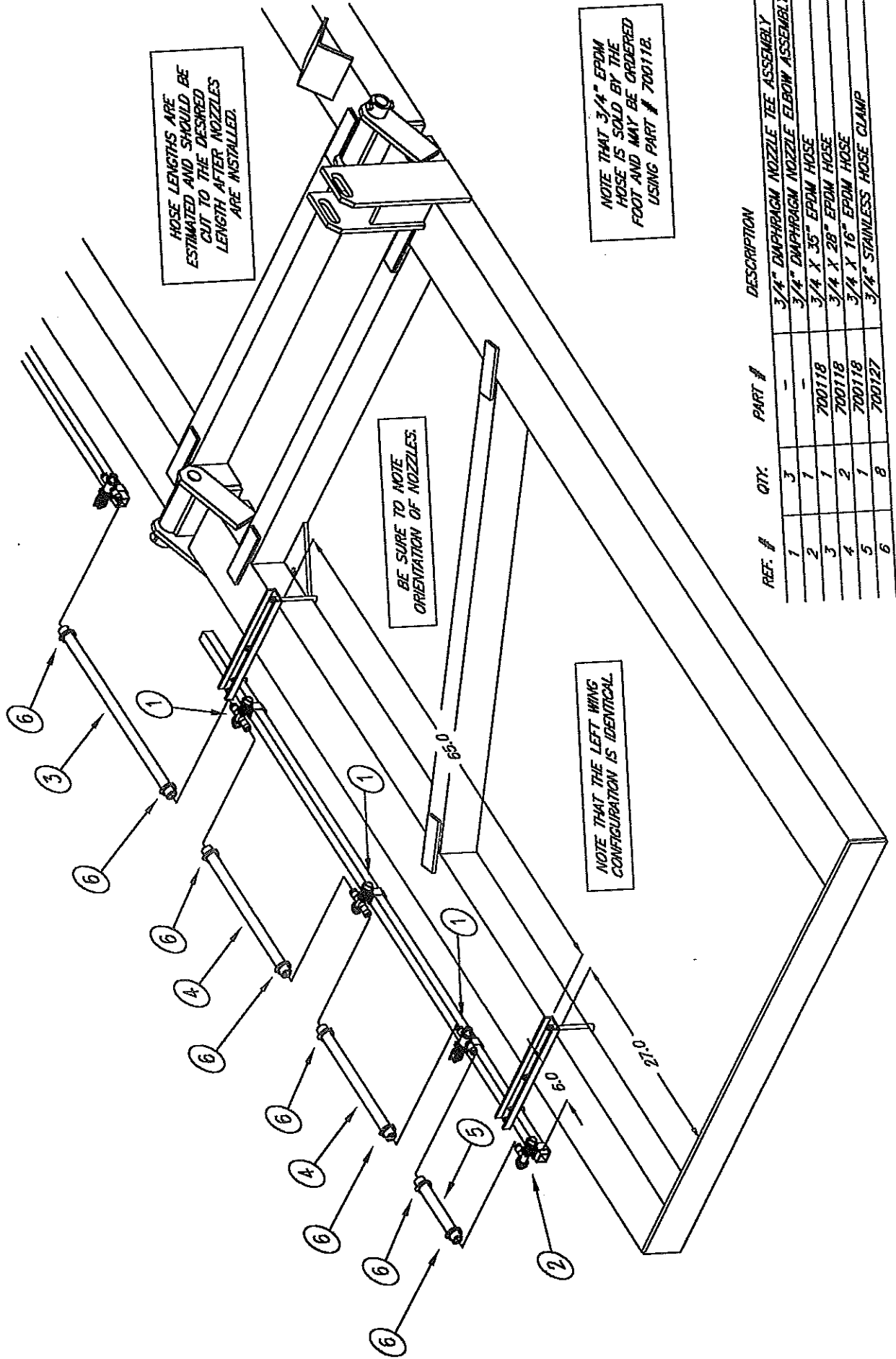
RIGHT WING MANIFOLD ASSEMBLY



REFER TO NEXT
PAGE FOR
LAYOUT
DIMENSIONS.

REF. #	QTY.	PART #	DESCRIPTION
1	1	400220	1-1/4 SQ. X 84" MAINFRAME MANIFOLD
2	2	400139	2 X 15" CHANNEL - MOUNTING BRACKET
3	2	101371	3/8-16 X 7 X 6" U-BOLT
4	4	101220	3/8" LOCK WASHER
5	4	101211	3/8-16 HEX NUT
6	2	101323	1/4-20 X 1-1/4 X 2" U-BOLT
7	4	101218	1/4" LOCK WASHER
8	4	101209	1/4-20 HEX NUT

RIGHT WING NOZZLE CONFIGURATION



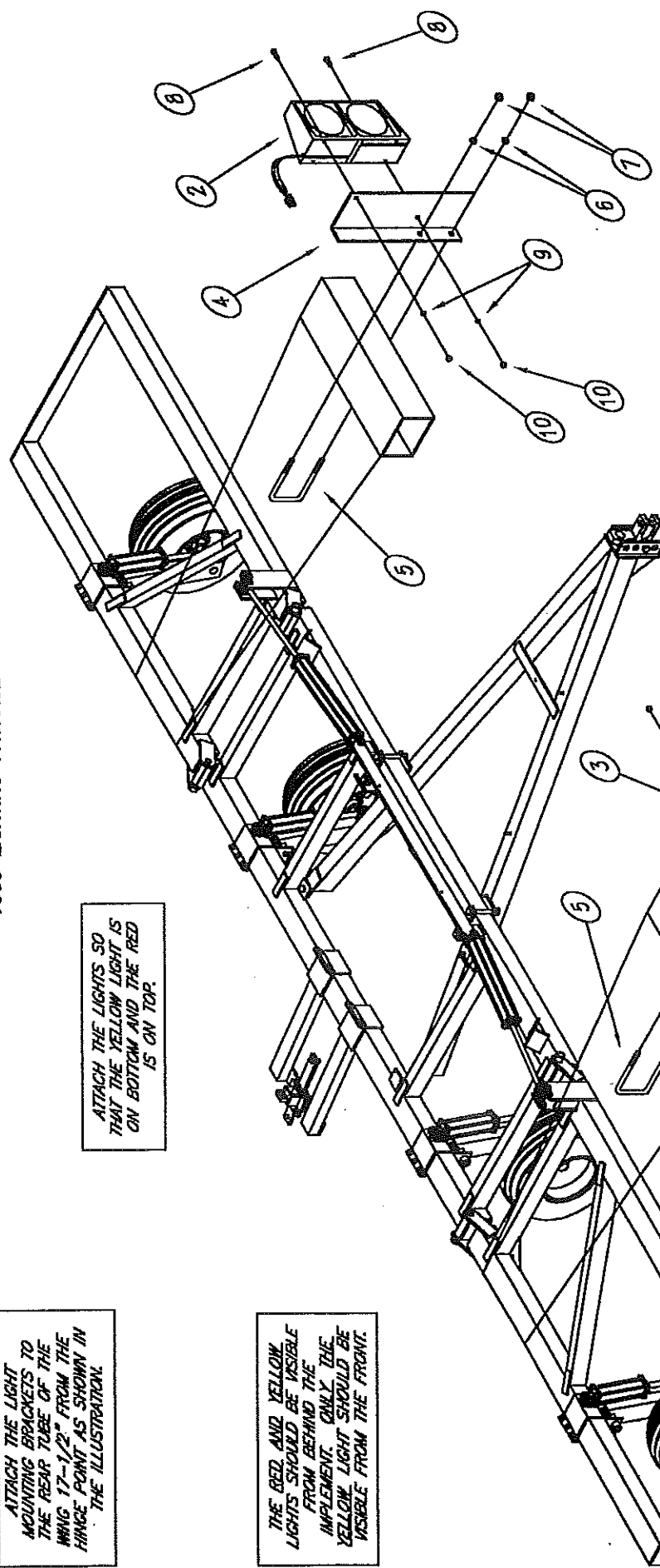
REF. #	QTY:	PART #	DESCRIPTION
1	3	-	3/4" DIAPHRAGM NOZZLE TEE ASSEMBLY
2	1	-	3/4" DIAPHRAGM NOZZLE ELBOW ASSEMBLY
3	1	700118	3/4" X 35" EPDM HOSE
4	2	700118	3/4" X 28" EPDM HOSE
5	1	700118	3/4" X 16" EPDM HOSE
6	8	700127	3/4" STAINLESS HOSE CLAMP

1300 LIGHTING PACKAGE

ATTACH THE LIGHT MOUNTING BRACKETS TO THE REAR TUBE OF THE HINGE 17-1/2" FROM THE HINGE POINT AS SHOWN IN THE ILLUSTRATION.

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

ATTACH THE LIGHTS SO THAT THE YELLOW LIGHT IS ON BOTTOM AND THE RED IS ON TOP.



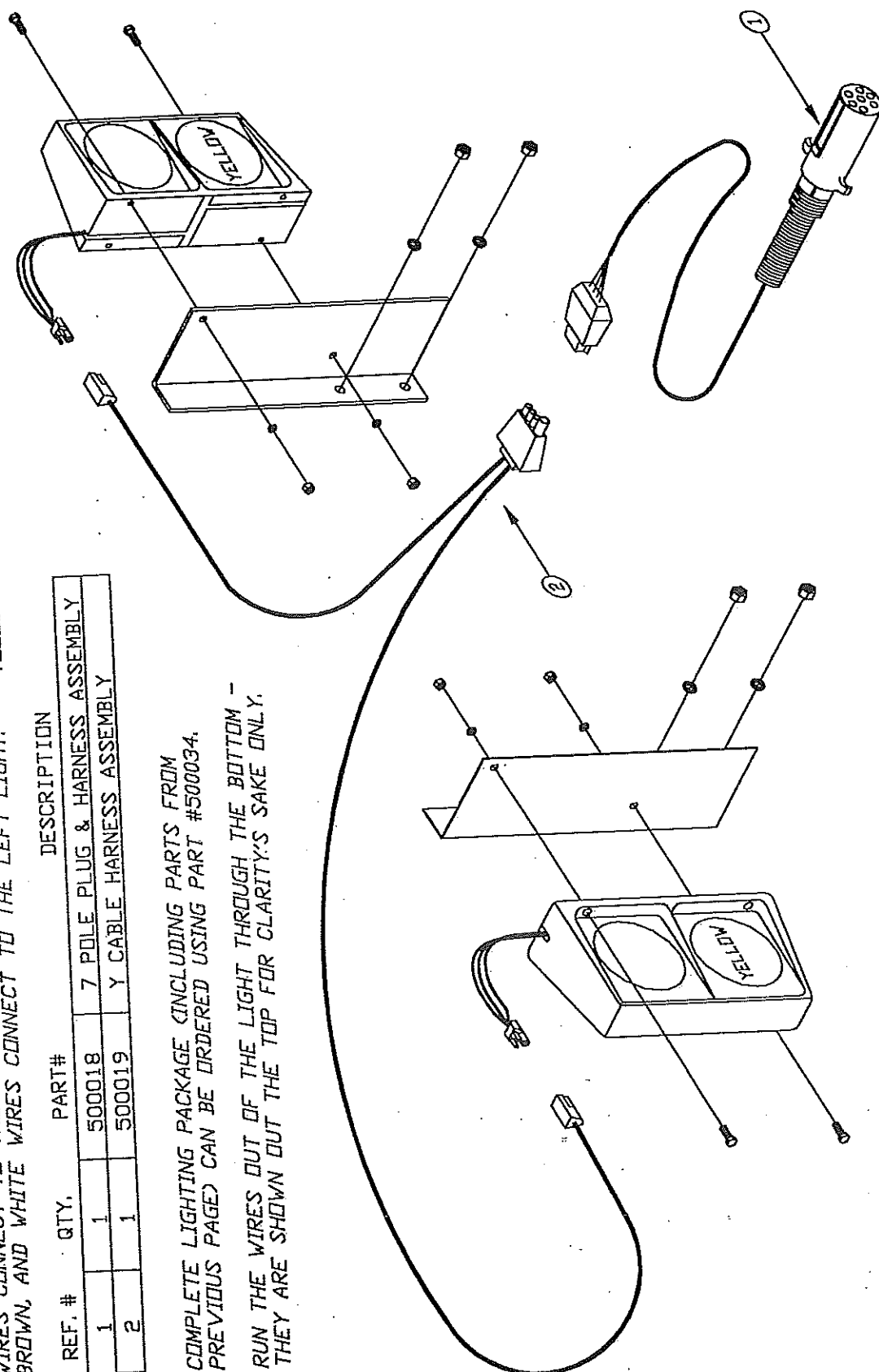
REF. #	QTY.	PART #	DESCRIPTION
1	1	500015	RIGHT HAND LIGHT UNIT
2	1	500016	LEFT HAND LIGHT UNIT
3	1	400060	RIGHT LIGHT MOUNTING BRACKET
4	1	400061	LEFT LIGHT MOUNTING BRACKET
5	2	101417	3/8-16 X 5 X 8-1/2" U-BOLT
6	4	101220	3/8" LOCK WASHER
7	4	101211	3/8-16 HEX NUT
8	4	101102	1/4-20 X 1" HEX BOLT
9	4	101218	1/4" LOCK WASHER
10	4	101209	1/4-20 HEX NUT

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.

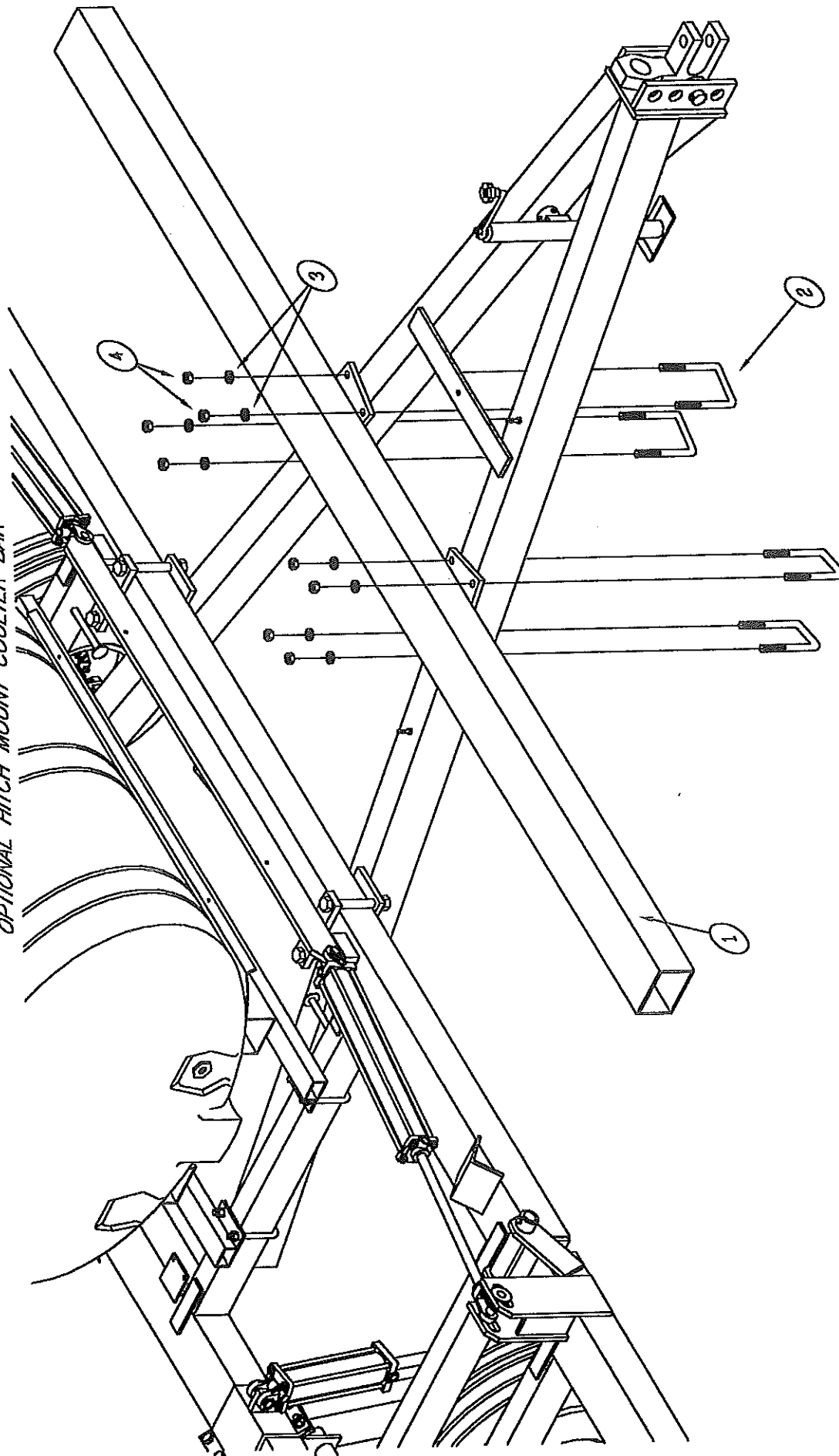
CONNECT Y CABLE TO THE RIGHT AND LEFT LIGHT UNITS AS SHOWN. THE GREEN, BROWN, AND WHITE WIRES CONNECT TO THE RIGHT LIGHT. THE YELLOW, BROWN, AND WHITE WIRES CONNECT TO THE LEFT LIGHT.

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.



OPTIONAL HITCH MOUNT COULTER BAR



DESCRIPTION

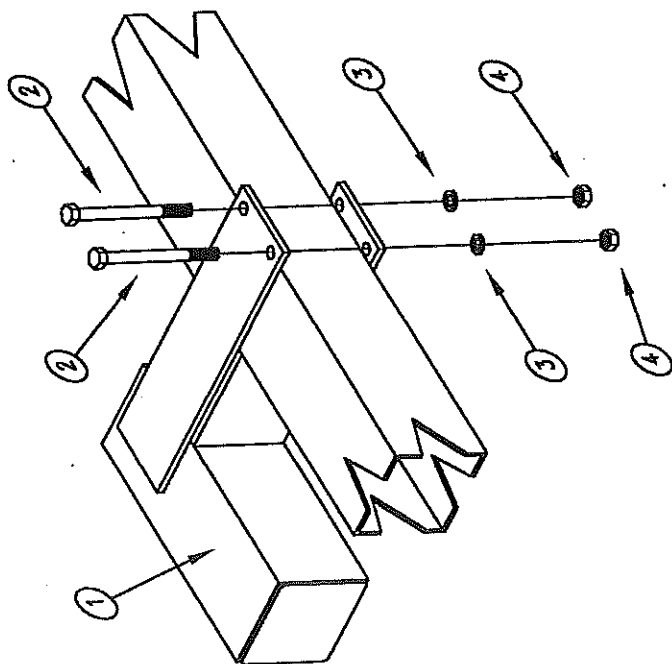
PART #

QTY.

REF. #

1	1	801715	7 X 5 X 165" FRONT COULTER BAR
2	4	101446	3/4-10 X 4 X 8" U-BOLT
3	8	101224	3/4" LOCK WASHER
4	8	101215	3/4-10 HEX NUT

OFFSET BRACKET ASSEMBLY

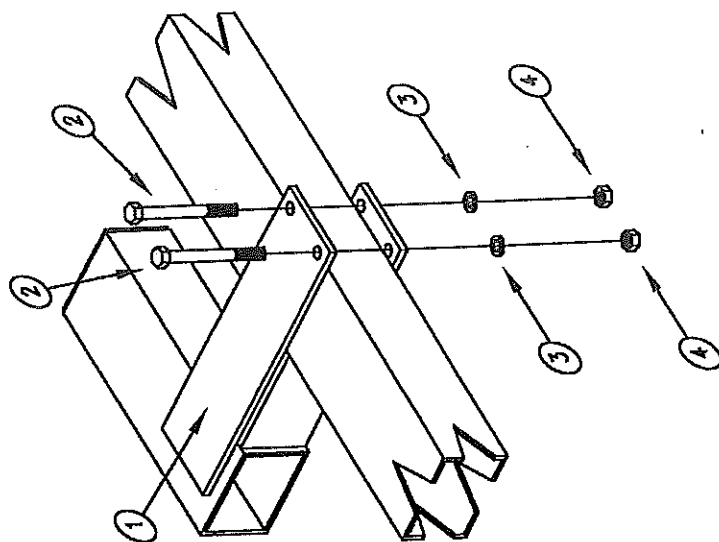


REF #	QTY	PART #	DESCRIPTION
1	1	801730	OFFSET BRACKET FOR 7 X 7 TUBE
2	2	101182	3/4-10 X 9" HEX BOLT
3	2	101224	3/4" LOCK WASHER
4	2	101215	3/4-10 HEX NUT

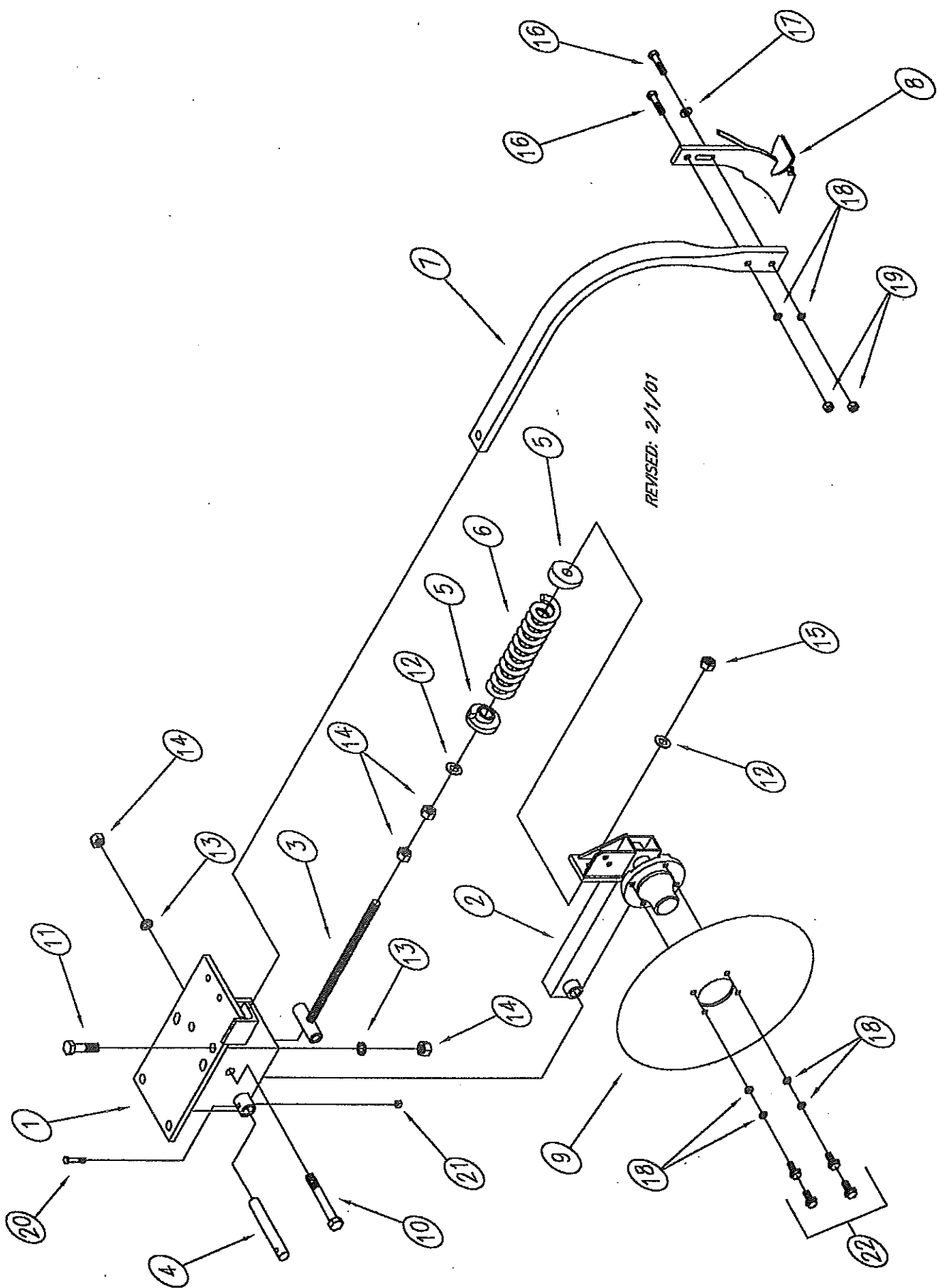
ENTIRE ASSEMBLY (ITEMS 1-4) MAY BE ORDERED USING PART # 900074.

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.



SINGLE COLTER AMMONIA APPLICATION ASSEMBLY -- LEFT



LEFT COLTER ASSEMBLY COMPLETE - 900011L

REVISED: 1/30/01

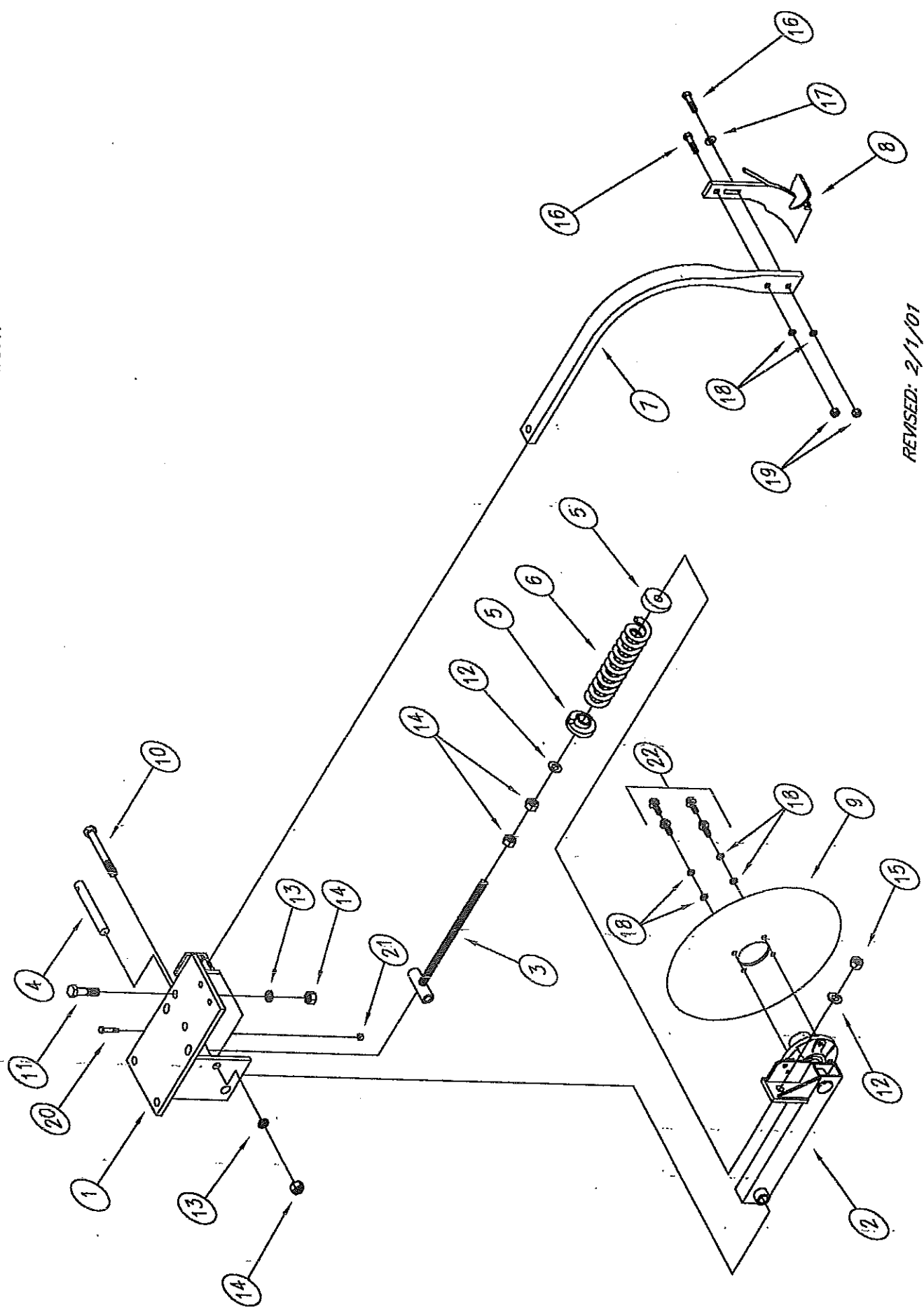
DESCRIPTION

REF. #	QTY.	PART #	DESCRIPTION
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



REVISED: 2/1/01

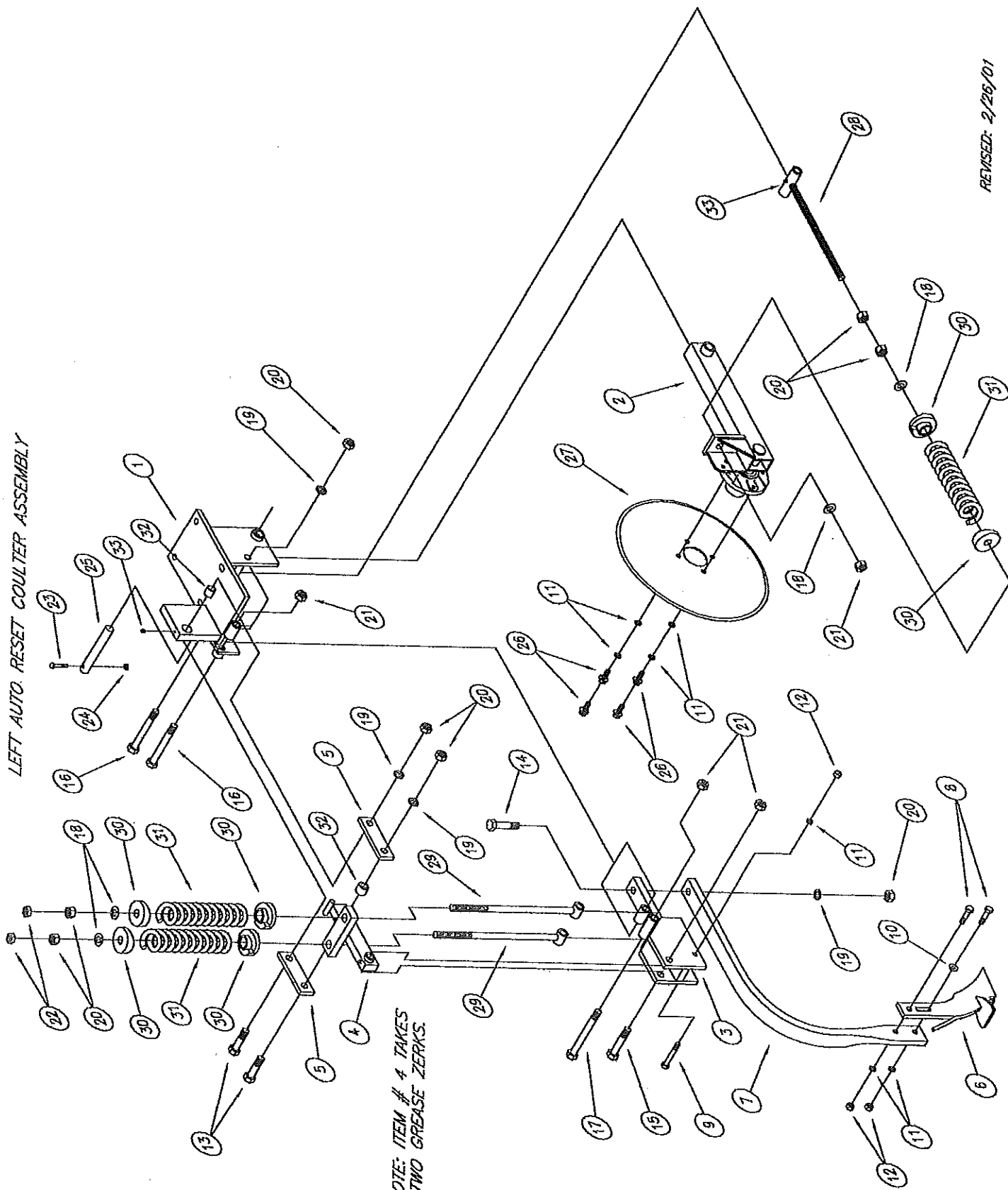
RIGHT COLTER ASSEMBLY COMPLETE - 900011R

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.

LEFT AUTO. RESET COULTER ASSEMBLY



NOTE: ITEM # 4 TAKES TWO GREASE ZERKS.

REVISED: 2/26/01

LEFT AUTO RESET COULTER ASSEMBLY COMPLETE - 900082L

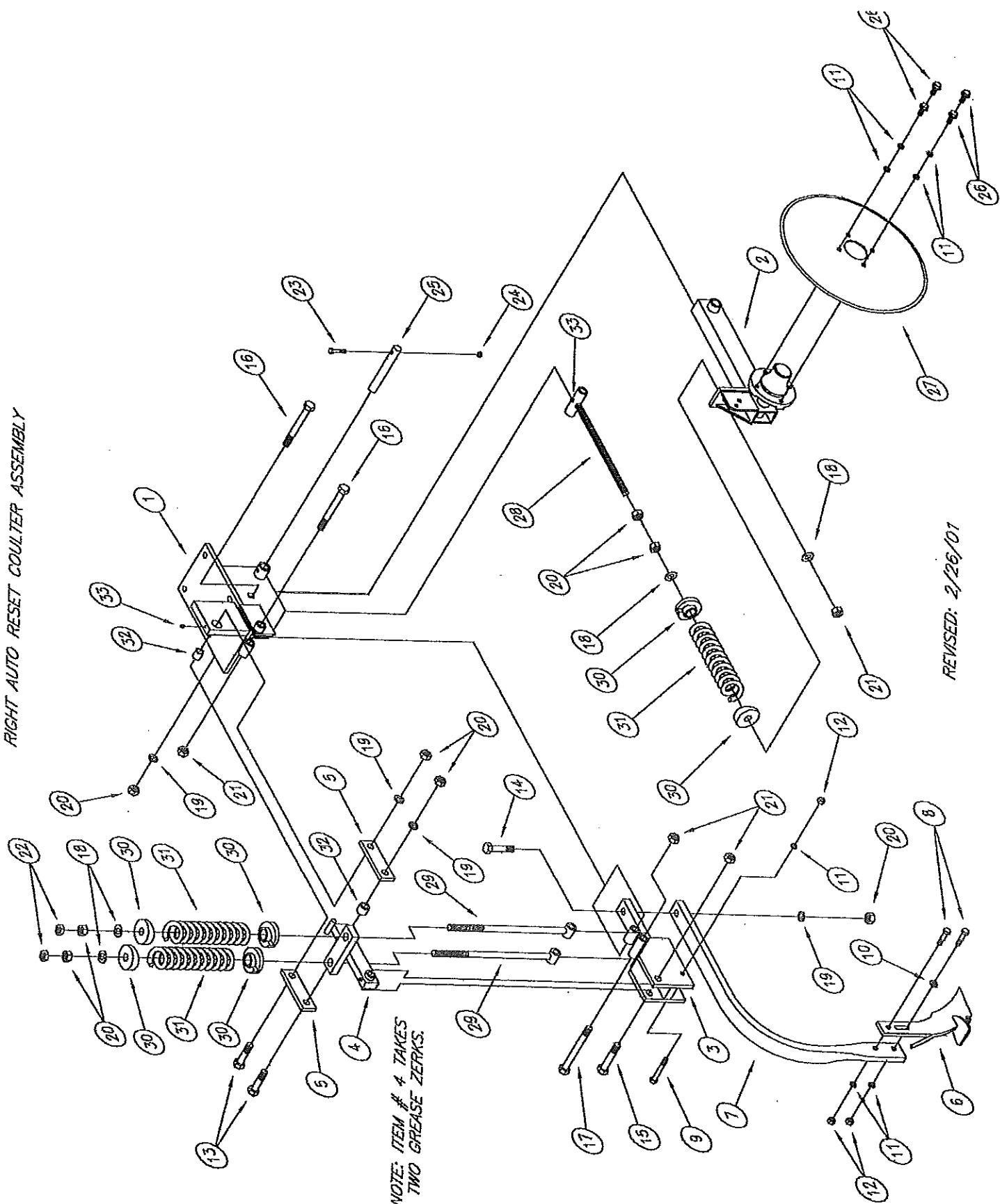
REFERENCE #	QUANTITY	PART #	DESCRIPTION
1	1	801684	LEFT MOUNTING BRACKET
2	1	801204	LEFT SPINDLE TUBE & BUSHING ASSEM.
3	1	801686	SHANK MOUNTING BRACKET
4	1	801687	AUTO RESET BRACKET
5	2	400201	1/2 X 2 X 6-1/8" PIVOT PLATE
6	1	900036	AMMONIA KNIFE WITH SEALER
7	1	900037	SIDE MOUNT SHANK
8	2	101149	1/2-13 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



NOTE: ITEM # 4 TAKES
TWO GREASE ZERKS.

REVISED: 2/26/01

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	Ø1.00 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

**

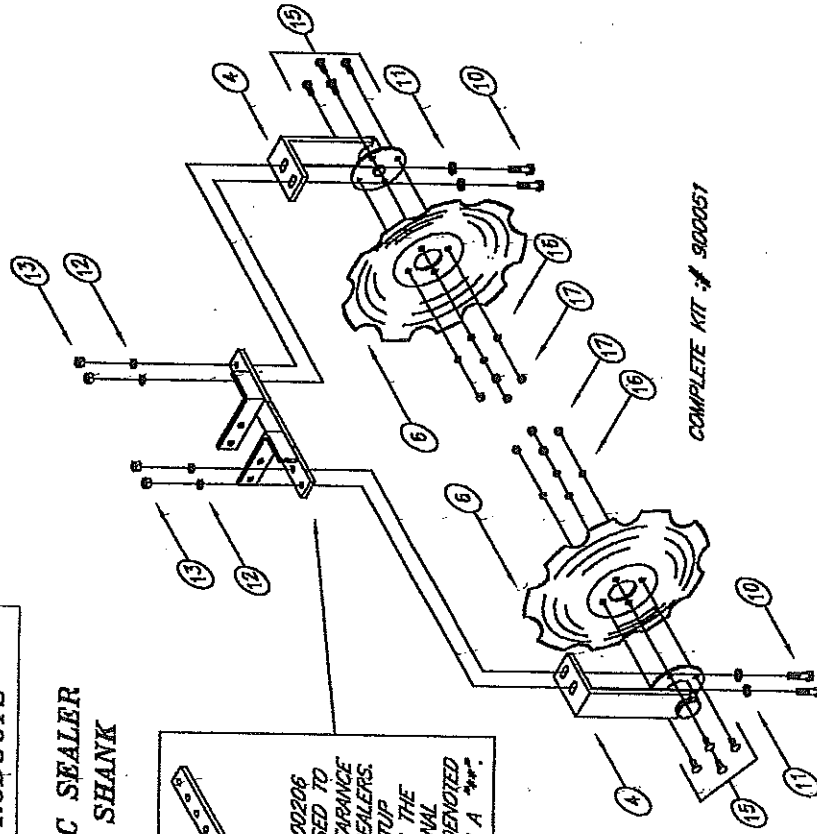
FOR 7 X 7 BAR, USE 3/4-10 X 7 X 9" U-BOLT -- PART # 101316.

**

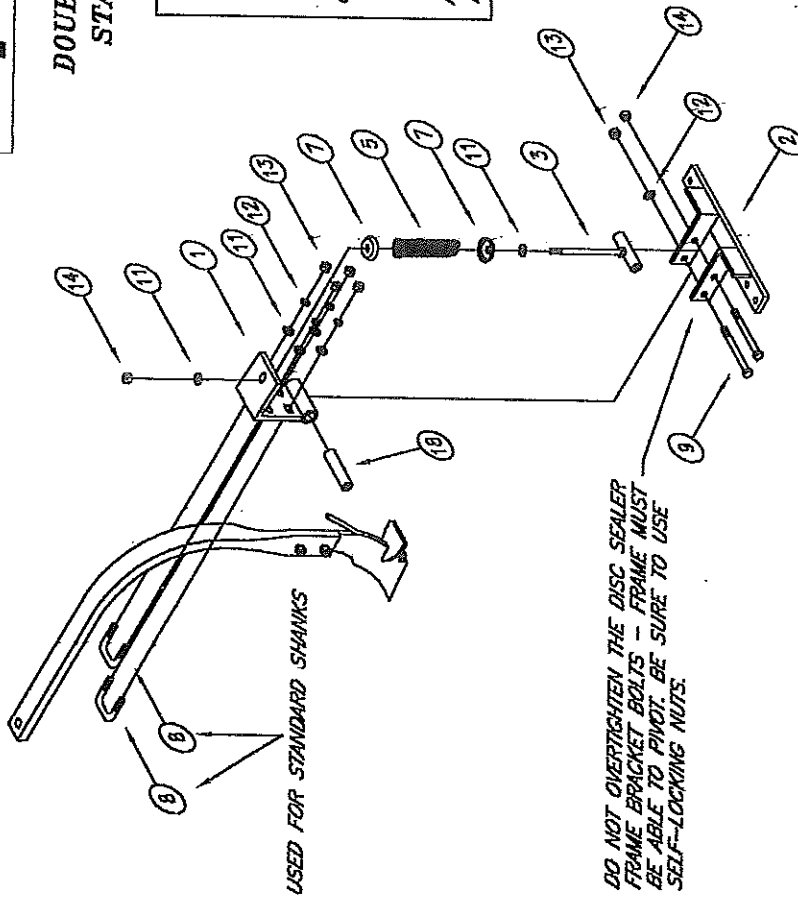
FOR 7 X 5 BAR, USE 3/4-10 X 7 X 6-1/2" U-BOLT -- PART # 101315.

PROGRESSIVE FARM PRODUCTS

DOUBLE DISC SEALER STANDARD SHANK



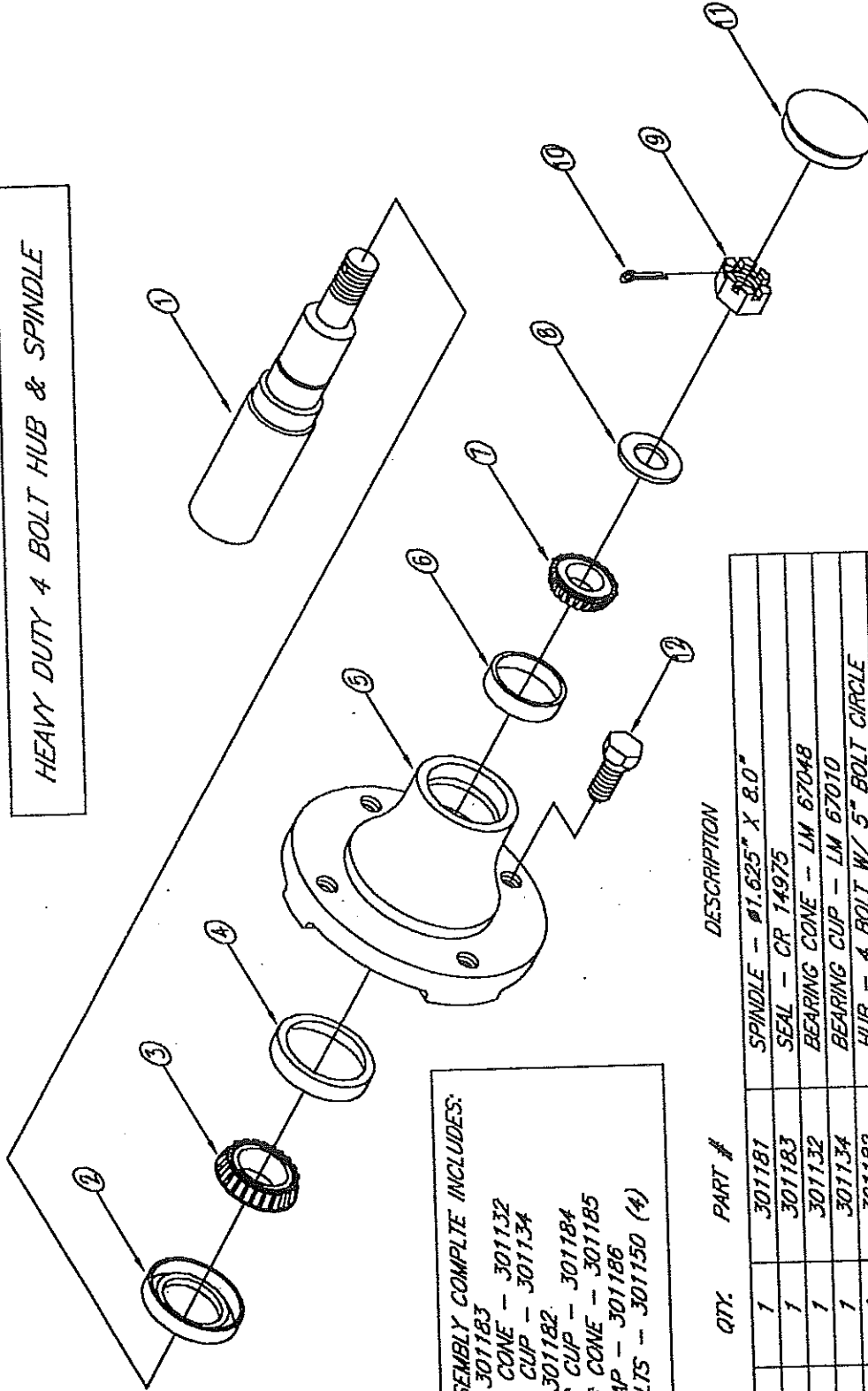
COMPLETE KIT # 900051



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	

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

HEAVY DUTY 4 BOLT HUB & SPINDLE



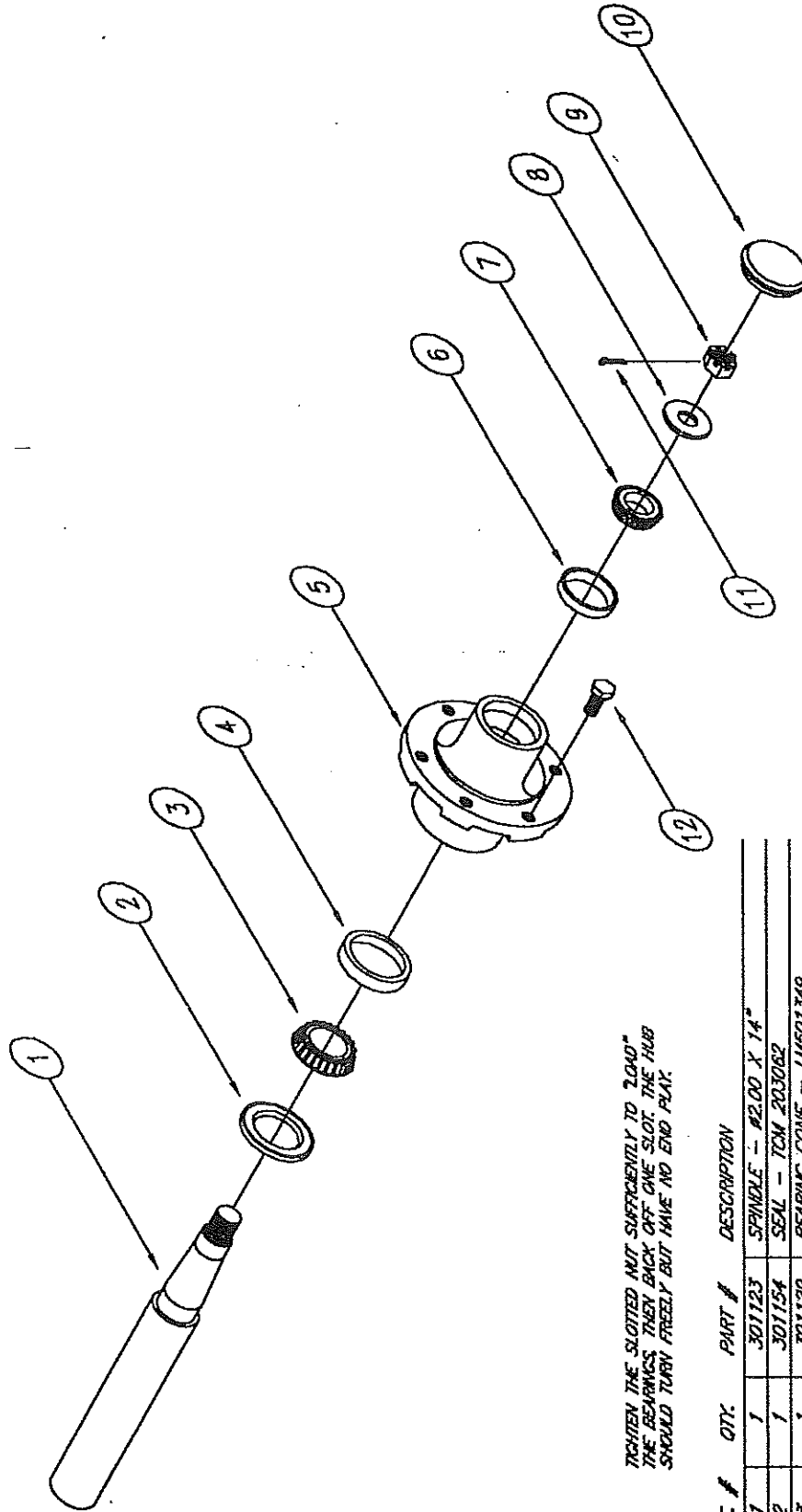
HUB ASSEMBLY COMPLETE INCLUDES:
 SEAL - 301183
 BEARING CONE - 301132
 BEARING CUP - 301134
 HUB - 301182
 BEARING CUP - 301184
 BEARING CONE - 301185
 DUST CAP - 301186
 LUG BOLTS - 301150 (4)

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

DESCRIPTION

REF. #	QTY.	PART #	DESCRIPTION
1	1	301181	SPINDLE - Ø1.625" 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

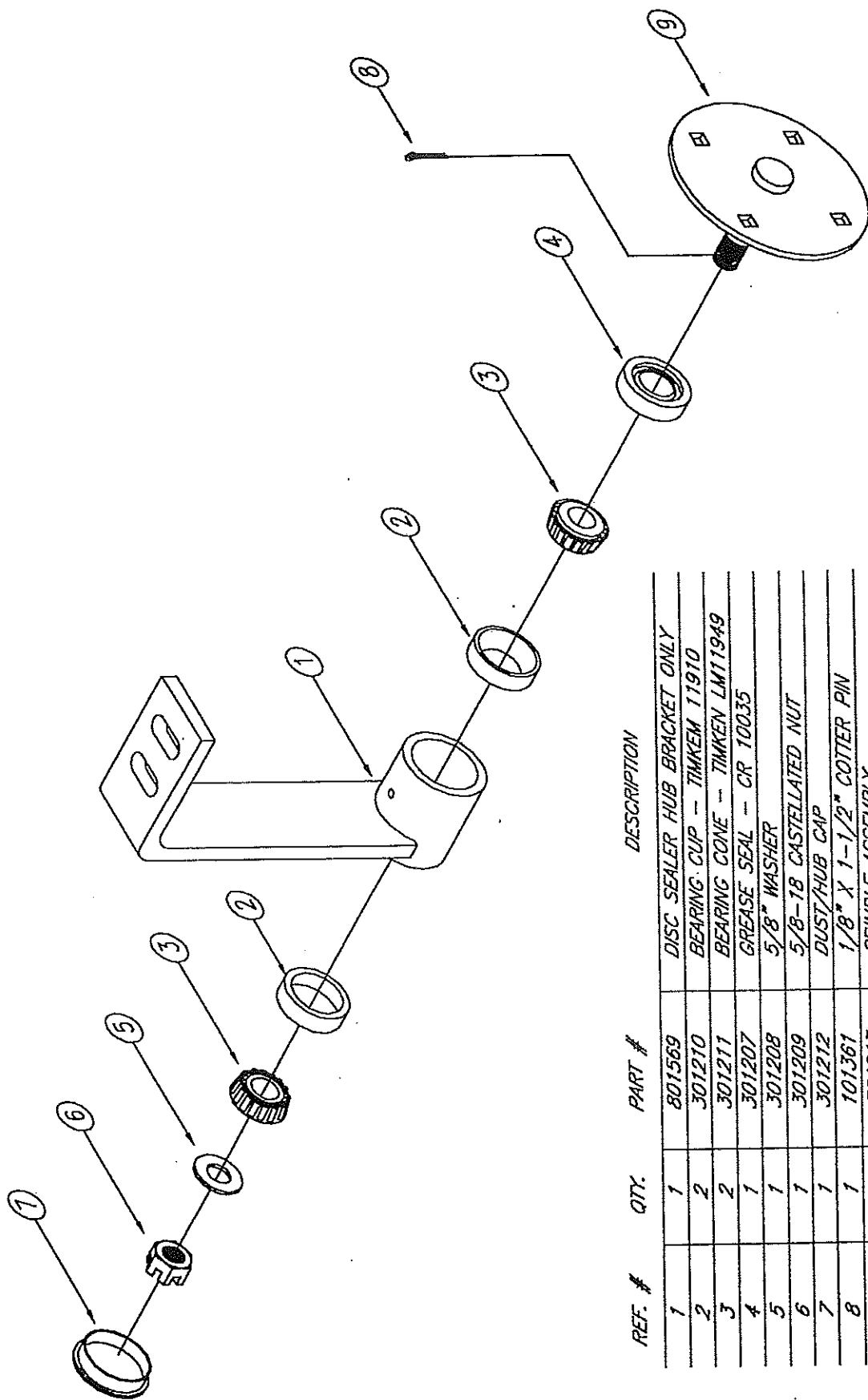
6 BOLT HUB & SPINDLE



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

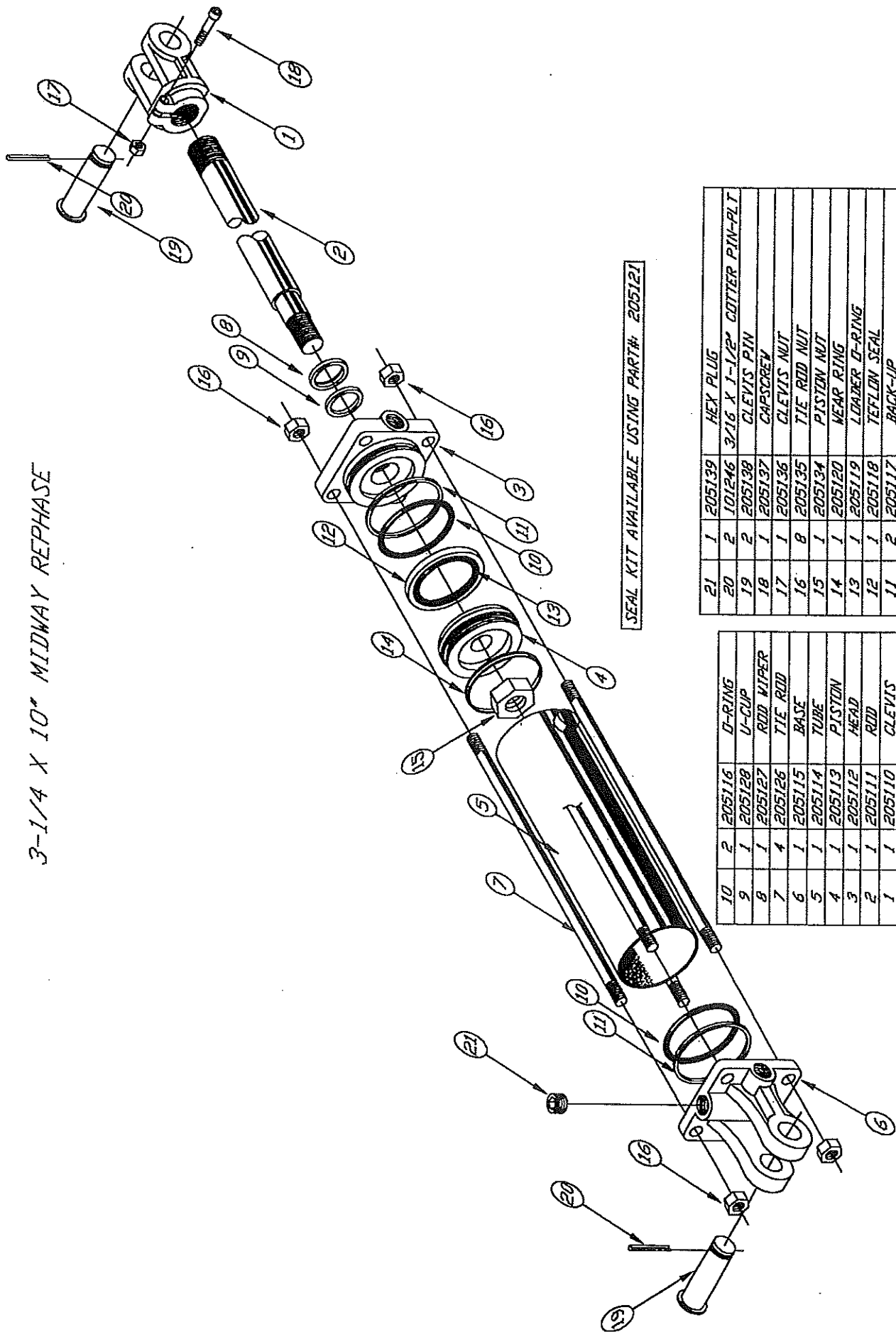
REF. #	QTY.	PART #	DESCRIPTION
1	1	301123	SPINDLE -- #2.00 X 14"
2	1	301154	SEAL -- TCM 203062
3	1	301129	BEARING CONE -- LM501349
4	1	301135	BEARING CUP -- LM501310
5	1	301126	6 BOLT HUB -- 6" BOLT CIRCLE
6	1	301134	BEARING CUP -- LM67010
7	1	301132	BEARING CONE -- LM67048
8	1	301157	WASHER -- 2" O.D. 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

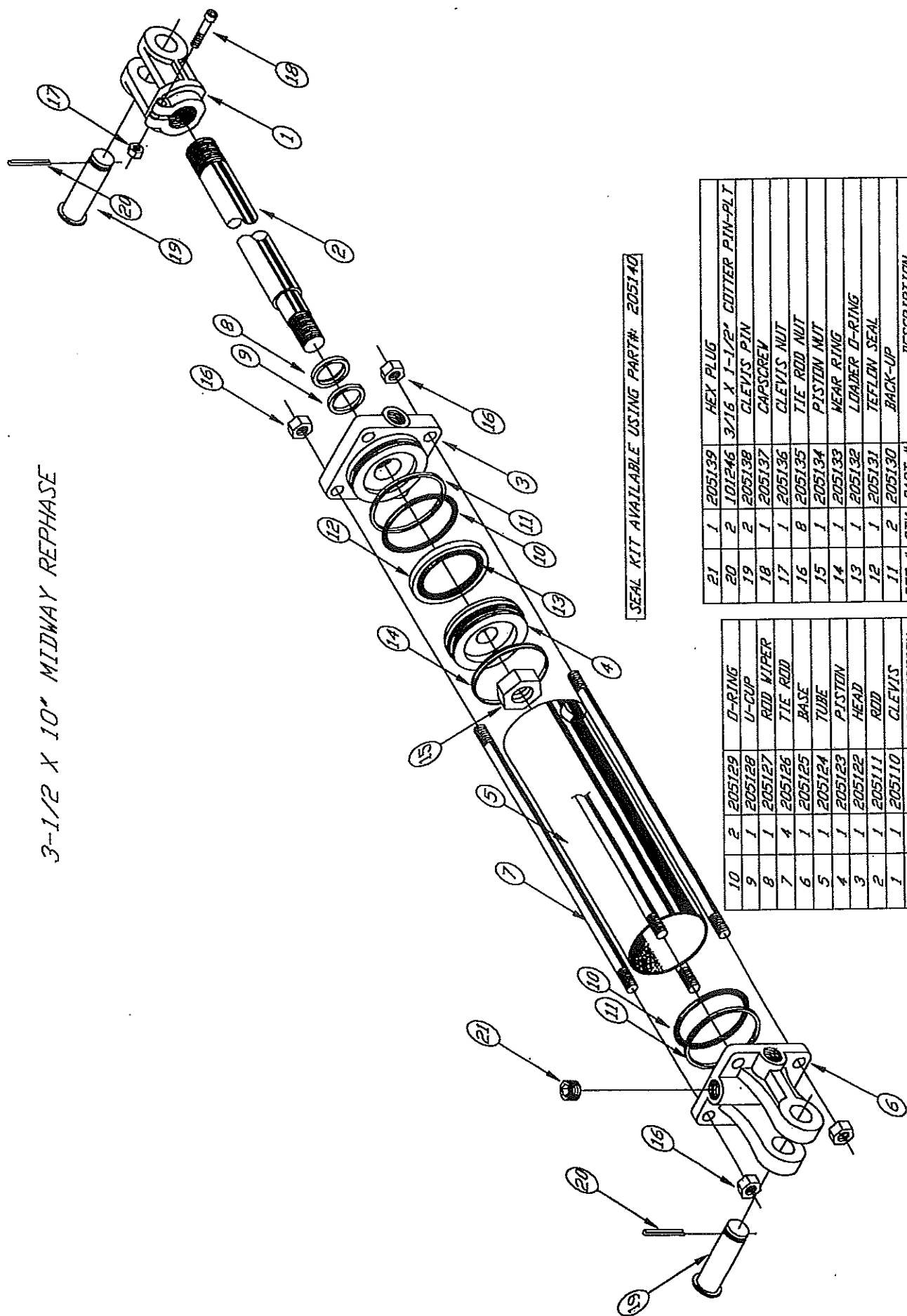


SEAL KIT AVAILABLE USING PART# 205121

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 D-RING
12	1	205118	TEFLON SEAL
11	2	205117	BACK-UP

REF. #	QTY.	PART #	DESCRIPTION
10	2	205116	D-RING
9	1	205129	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

3-1/2 X 10" MIDWAY REPHASE



SEAL KIT AVAILABLE USING PART# 205140

REF. #	QTY.	PART #	DESCRIPTION
21	1	205139	HEX PLUG
20	2	101246	3/16 X 1-1/2" CUTTER 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 D-RING
12	1	205131	TEFLON SEAL
11	2	205130	BACK-UP

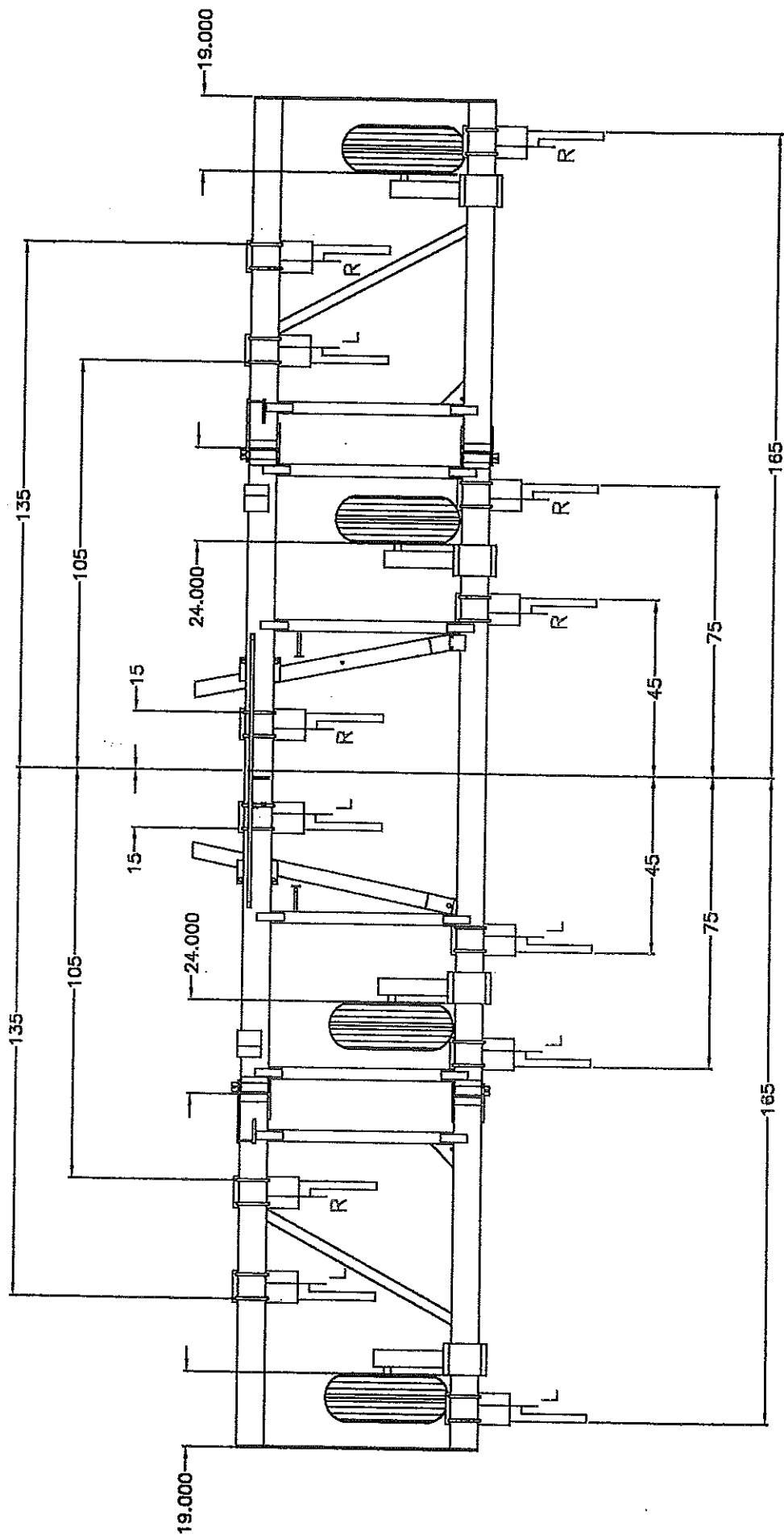
REF. #	QTY.	PART #	DESCRIPTION
10	2	205129	D-RING
9	1	205128	U-CUP
8	1	205127	ROD WIPER
7	4	205126	TIE ROD
6	1	205125	BASE
5	1	205124	TUBE
4	1	205123	PISTON
3	1	205122	HEAD
2	1	205111	ROD
1	1	205110	CLEVIS

1300 COLTER ROW SPACING 30" EVEN ROWS

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.

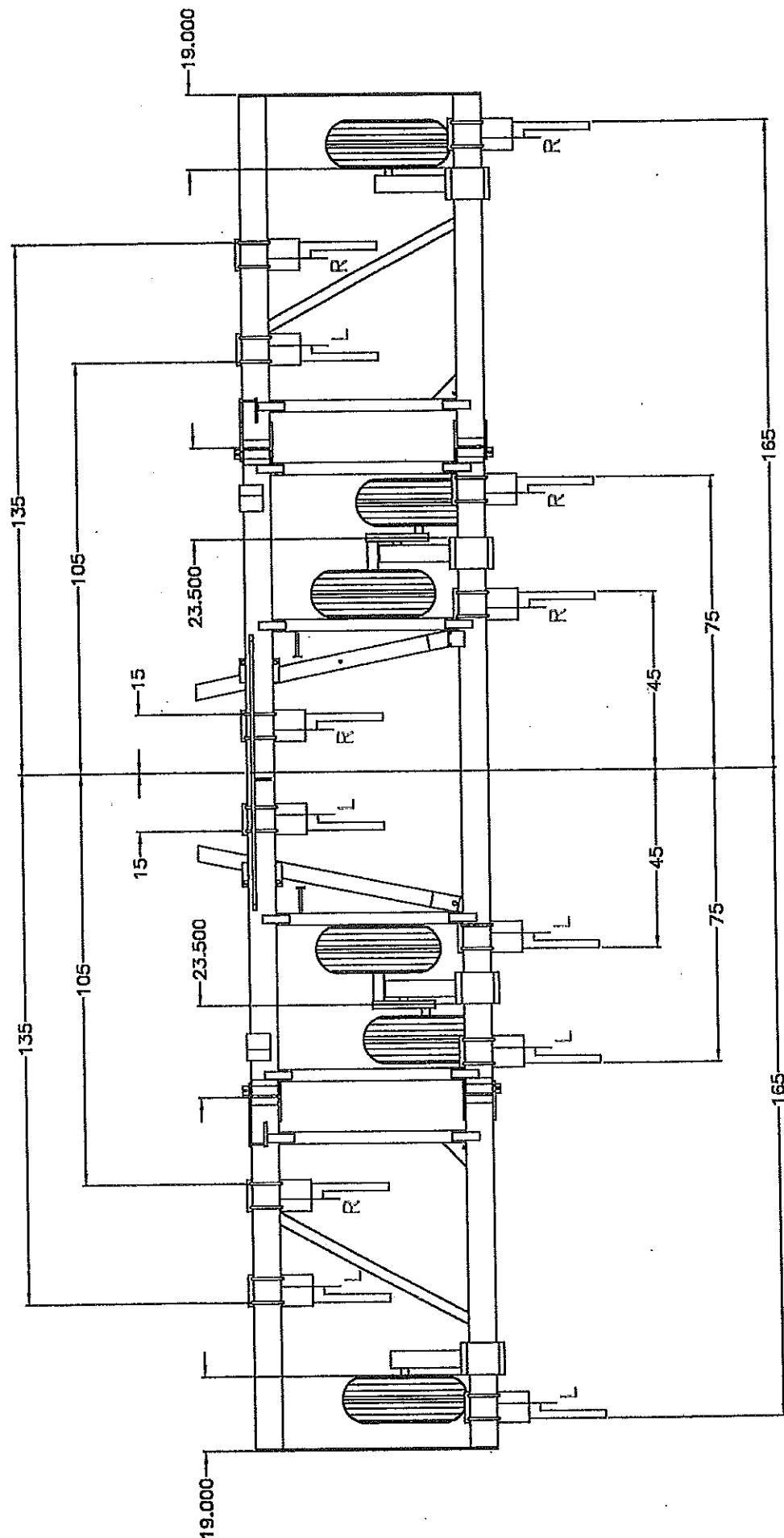


1300 COLTER ROW SPACING 30" EVEN ROWS WITH OPTIONAL TANDEM WHEELS

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.

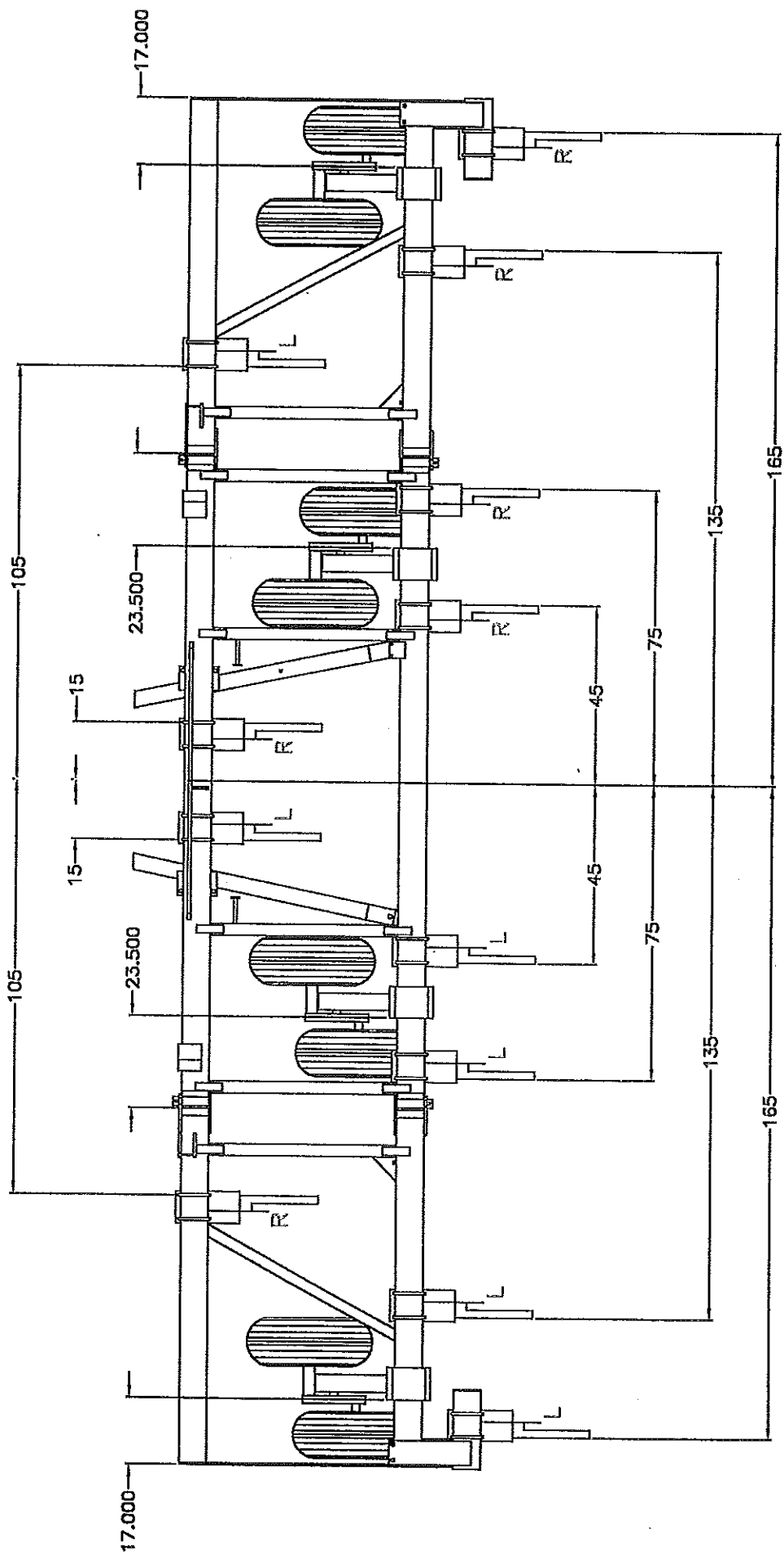


1300 COLTER ROW SPACING
30" EVEN ROWS WITH
OPTIONAL TANDEM WHEELS

NOTE: WHEN USING OPTIONAL AUTORESET SHANKS, CONFIGURATION SHOWN MAY RESULT IN STRUCTURAL DAMAGE. TO AVOID THIS, CHECK ALL DISC SEELERS 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.

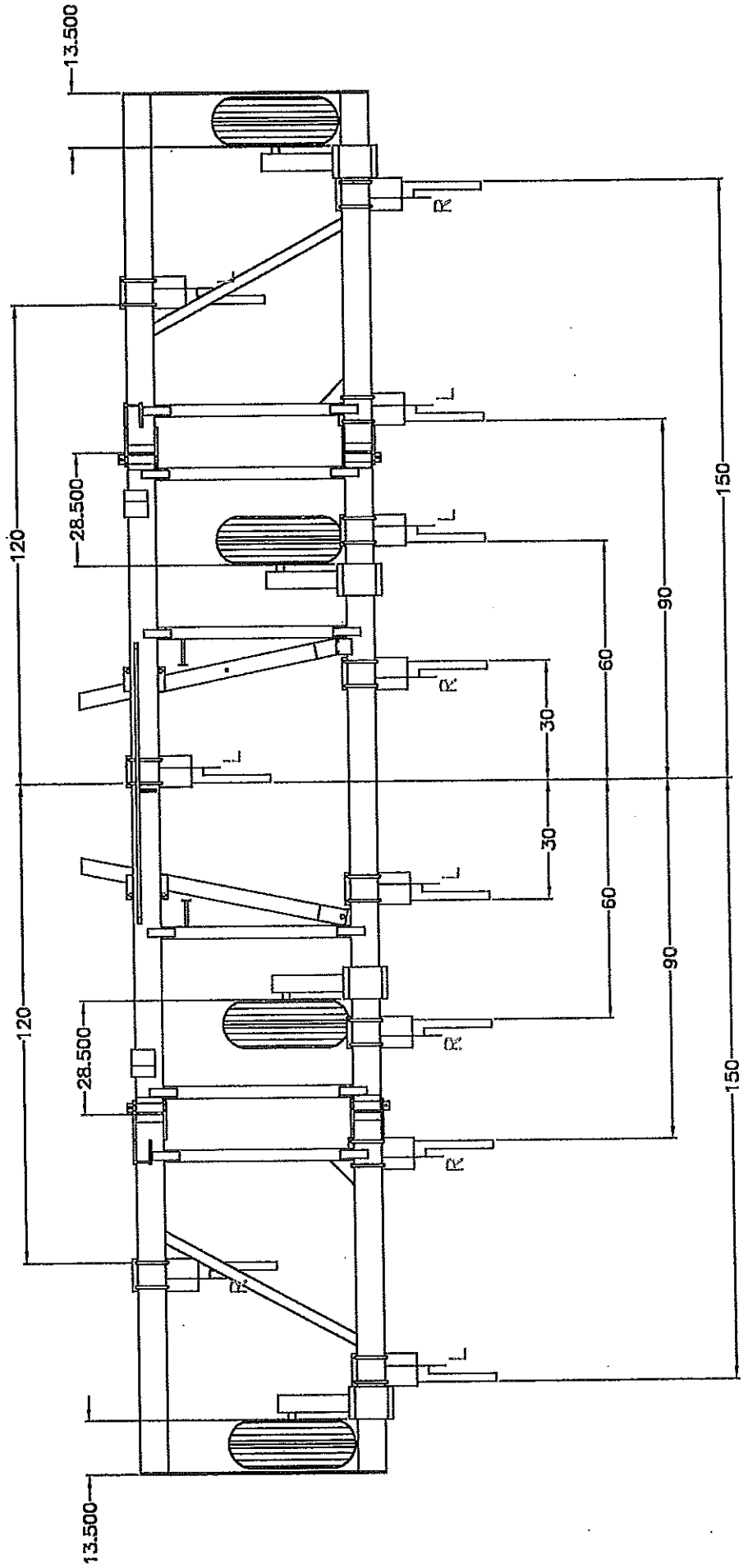


1300 COLTER ROW SPACING 30" ODD ROWS (87" WINGS)

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.

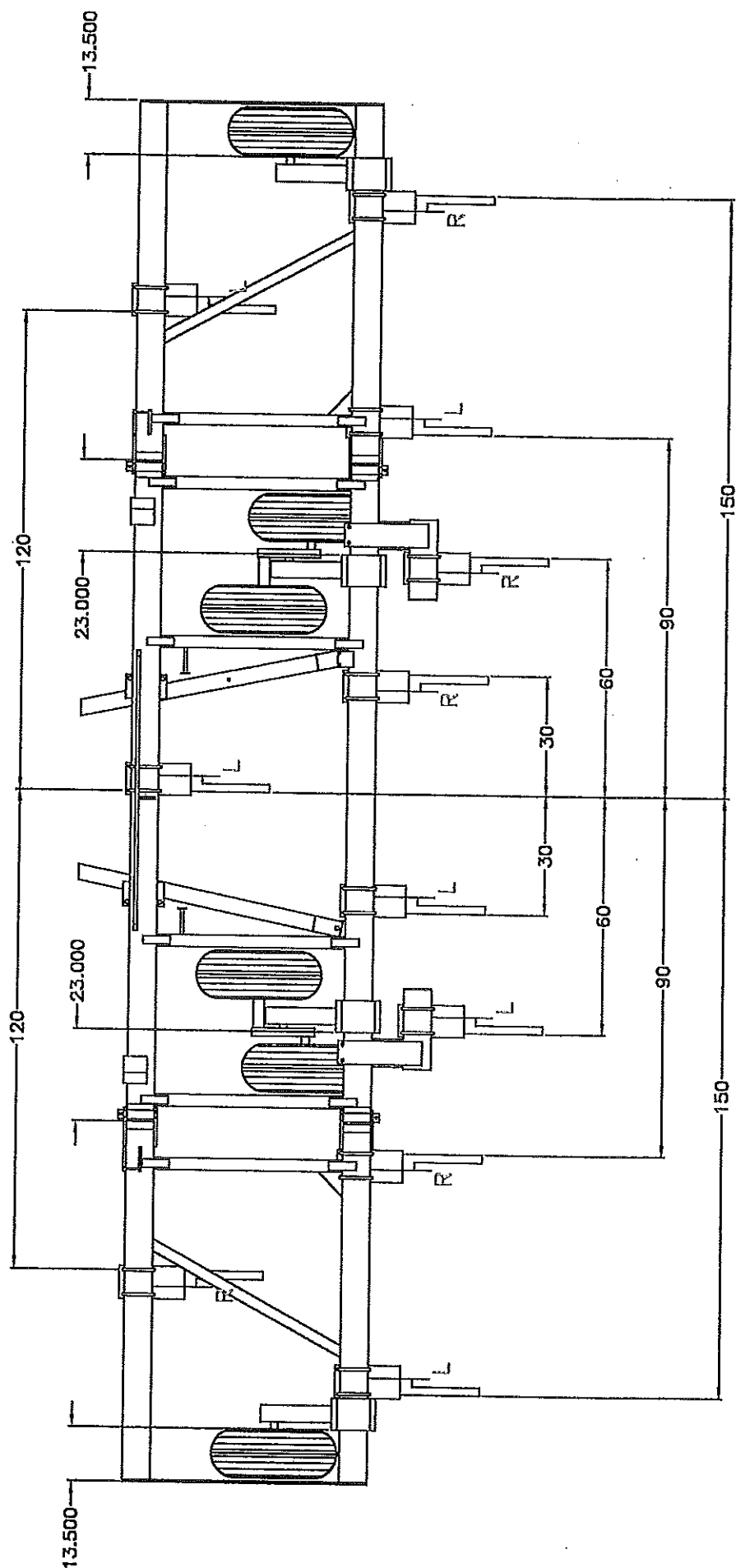


1300 COLTER ROW SPACING
30" ODD ROWS WITH OPTIONAL
TANDEM WHEELS (87" WINGS)

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.

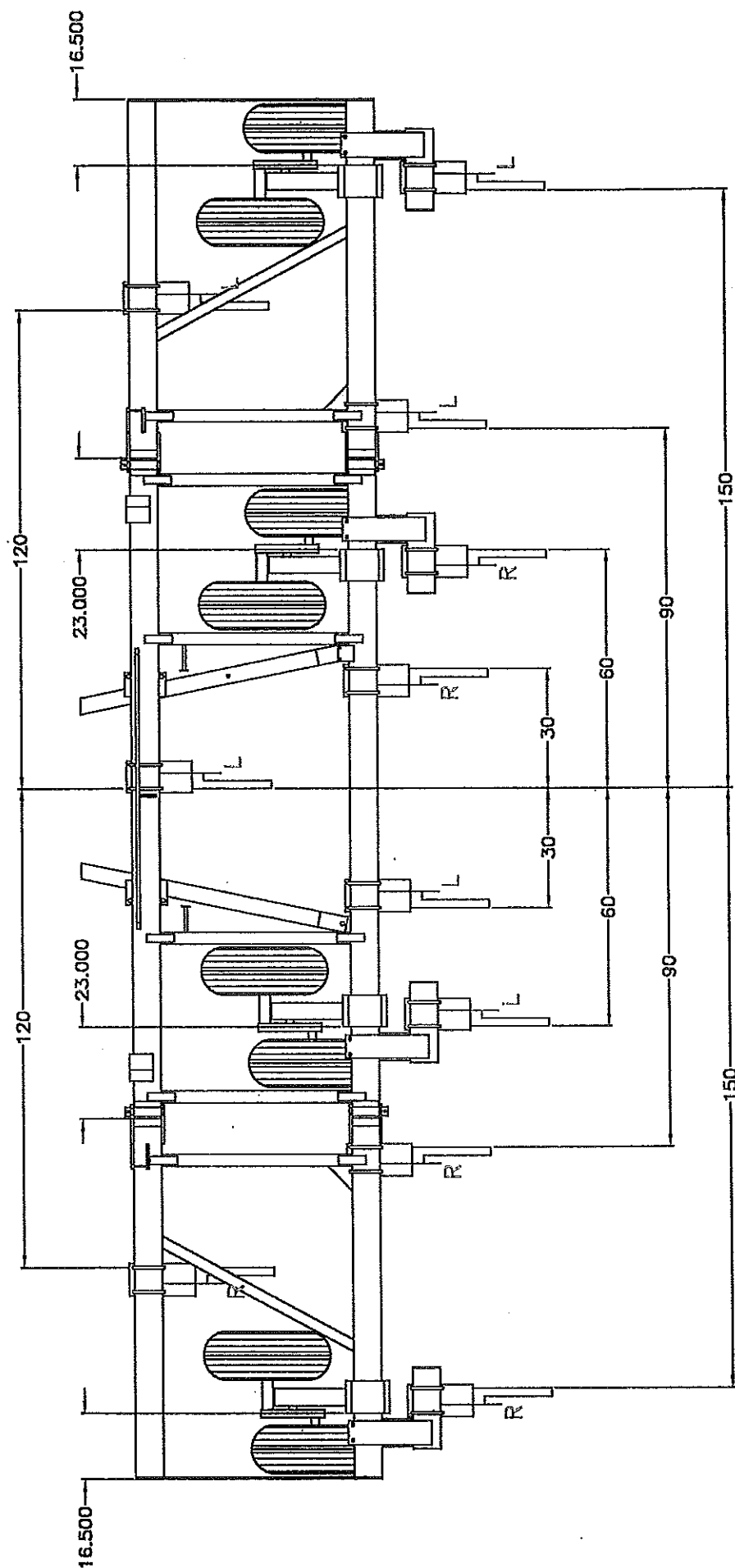


1300 COLTER ROW SPACING
30" ODD ROWS WITH OPTIONAL
TANDEM WHEELS (87" WINGS)

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.

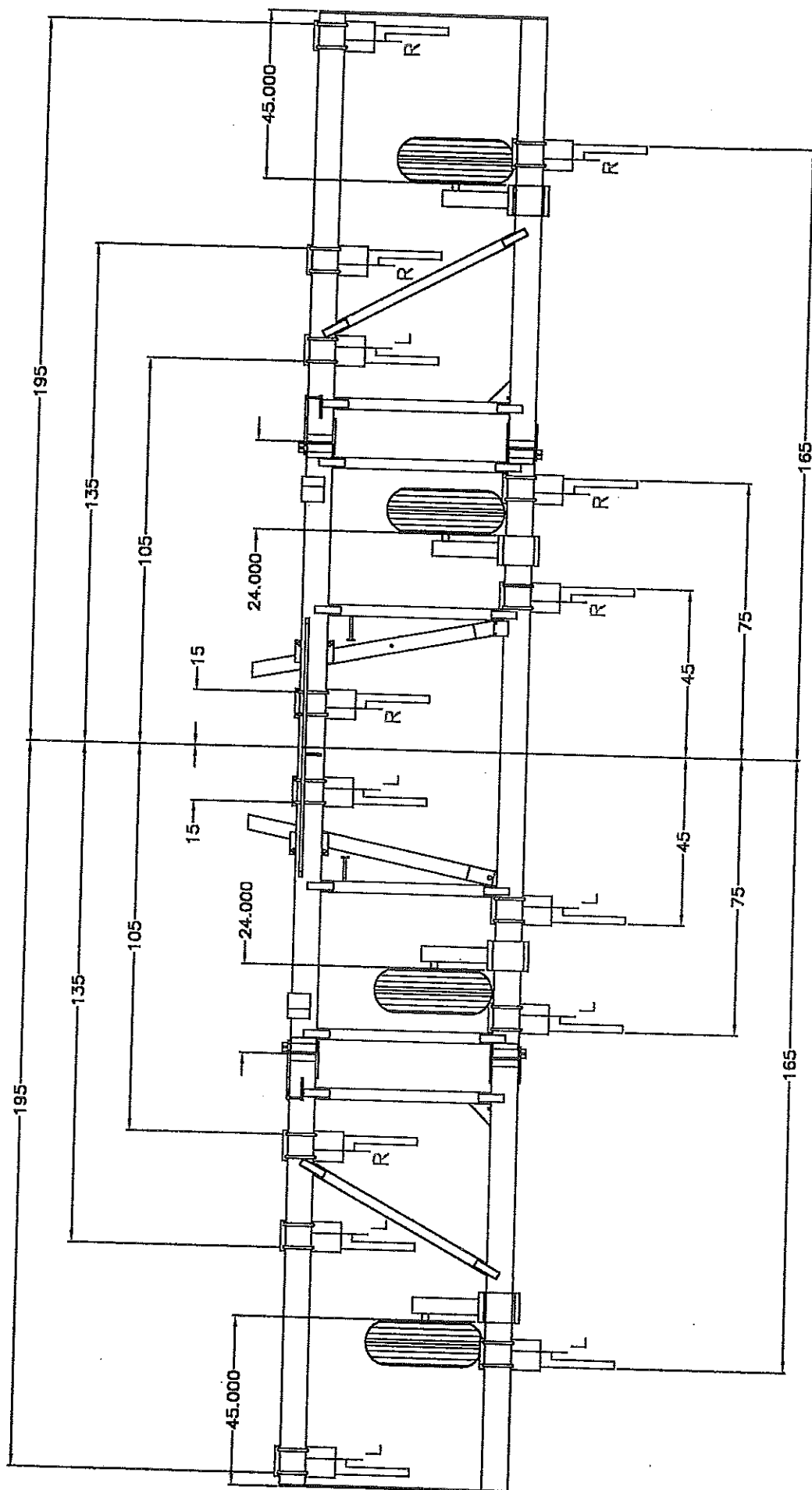
ALL COLTER DIMENSIONS ARE TAKEN FROM THE
MIDDLE OF THE BAR TO THE CENTER OF THE COLTER.



1300 COLTER ROW SPACING 30" EVEN ROWS (113" WING)

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.

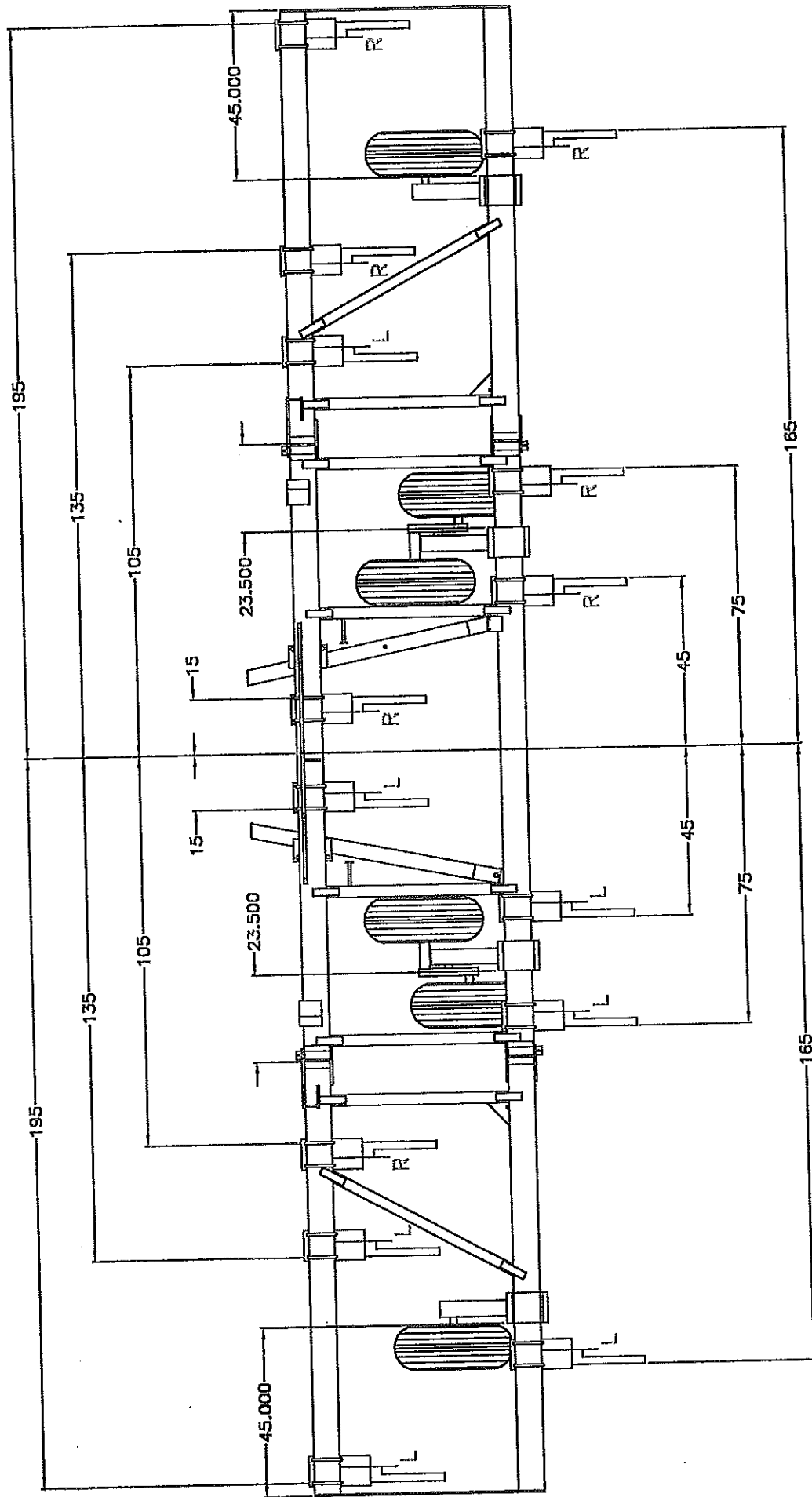


1300 COLTER ROW SPACING 30" EVEN ROWS WITH OPTIONAL TANDEM WHEELS (113" WING)

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.

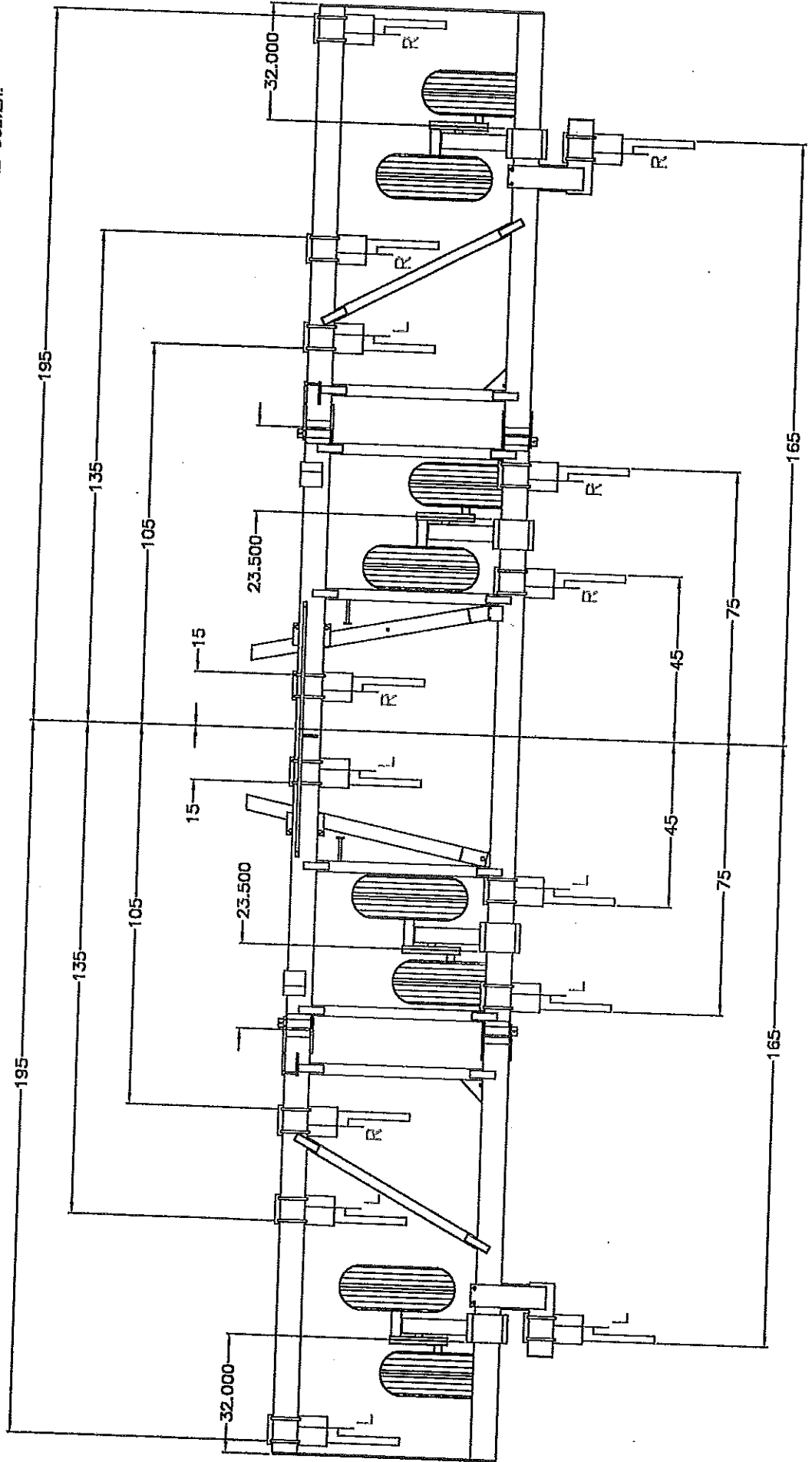


1300 COLTER ROW SPACING
30" EVEN ROWS WITH OPTIONAL
TANDEM WHEELS (113" WING)

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.

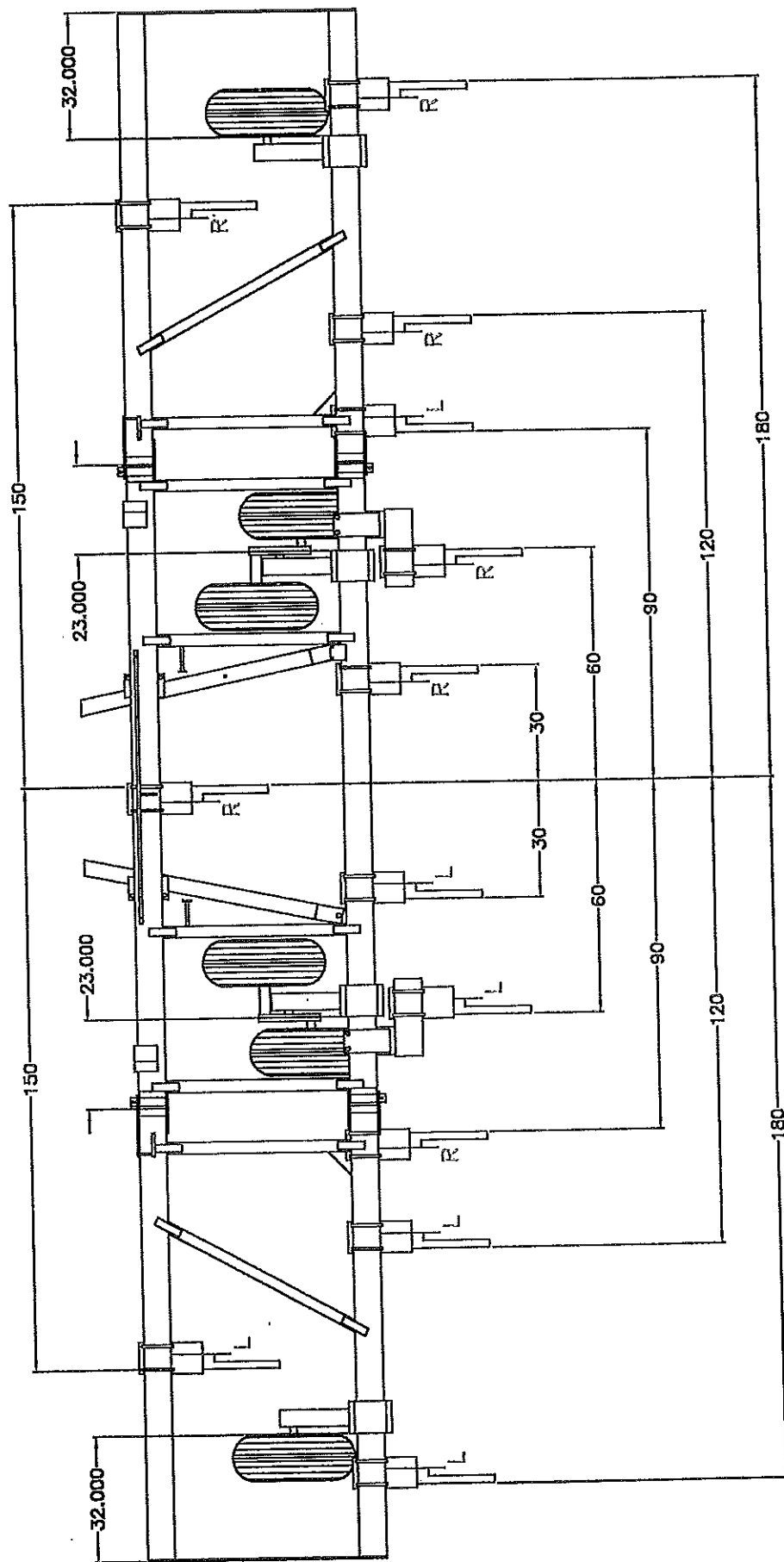


1300 COLTER ROW SPACING 30" ODD ROWS WITH OPTIONAL TANDEM WHEELS (113" WING)

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.



1300 COLTER ROW SPACING 30" ODD ROWS WITH OPTIONAL TANDEM WHEELS (113" WING)

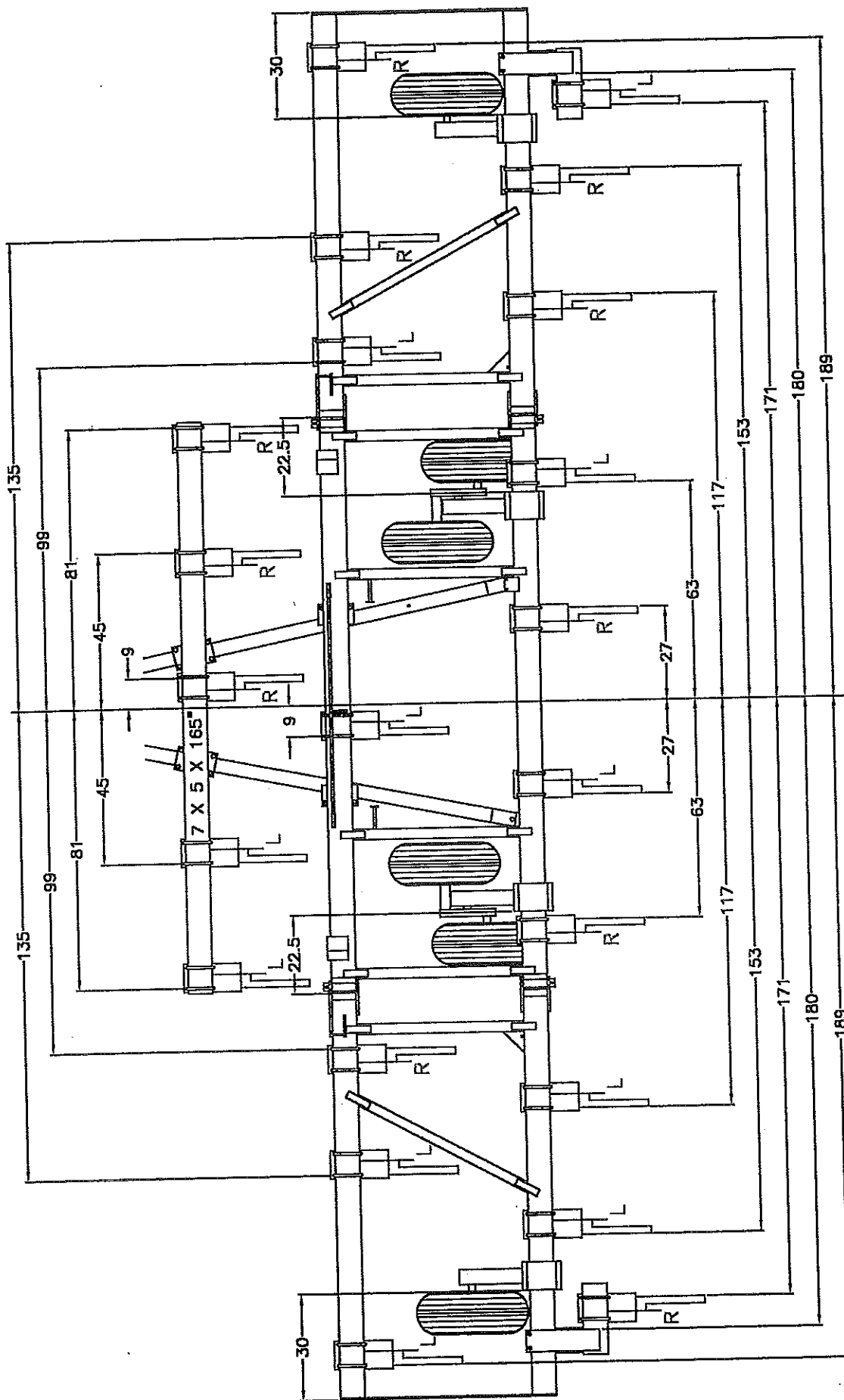
NOTE: WHEN USING OPTIONAL AUTORESET SHANKS, CONFIGURATION SHOWN MAY RESULT IN STRUCTURAL DAMAGE. TO AVOID THIS, CHECK ALL DISC SEALERS FOR CLEARANCE WHEN SHANK IS IN THE "TRIPPED" POSITION. AS NEEDED, RELOCATE SHANKS FROM THE FRONT BAR TO THE REAR BAR TO AVOID CLEARANCE PROBLEMS.

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.

The diagram is a technical side-view drawing of a 1300 Colter row spacing machine. It features a central frame with multiple rows of wheels and shanks. Key dimensions include an overall width of 180 inches, with individual row spacings of 30, 60, 90, 120, and 150 inches. Wheel dimensions are specified as 18 inches wide and 23 inches high. Components are labeled 'R' for right and 'L' for left. The drawing illustrates the mechanical layout for 30-inch odd row spacing with optional tandem wheels.

1300 COULTER SPACING 18" EVEN ROWS (113" WINGS)



ALL COULTER DIMENSIONS ARE TAKEN FROM THE
CENTER OF THE MAINFRAME TO THE COULTER ITSELF.

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

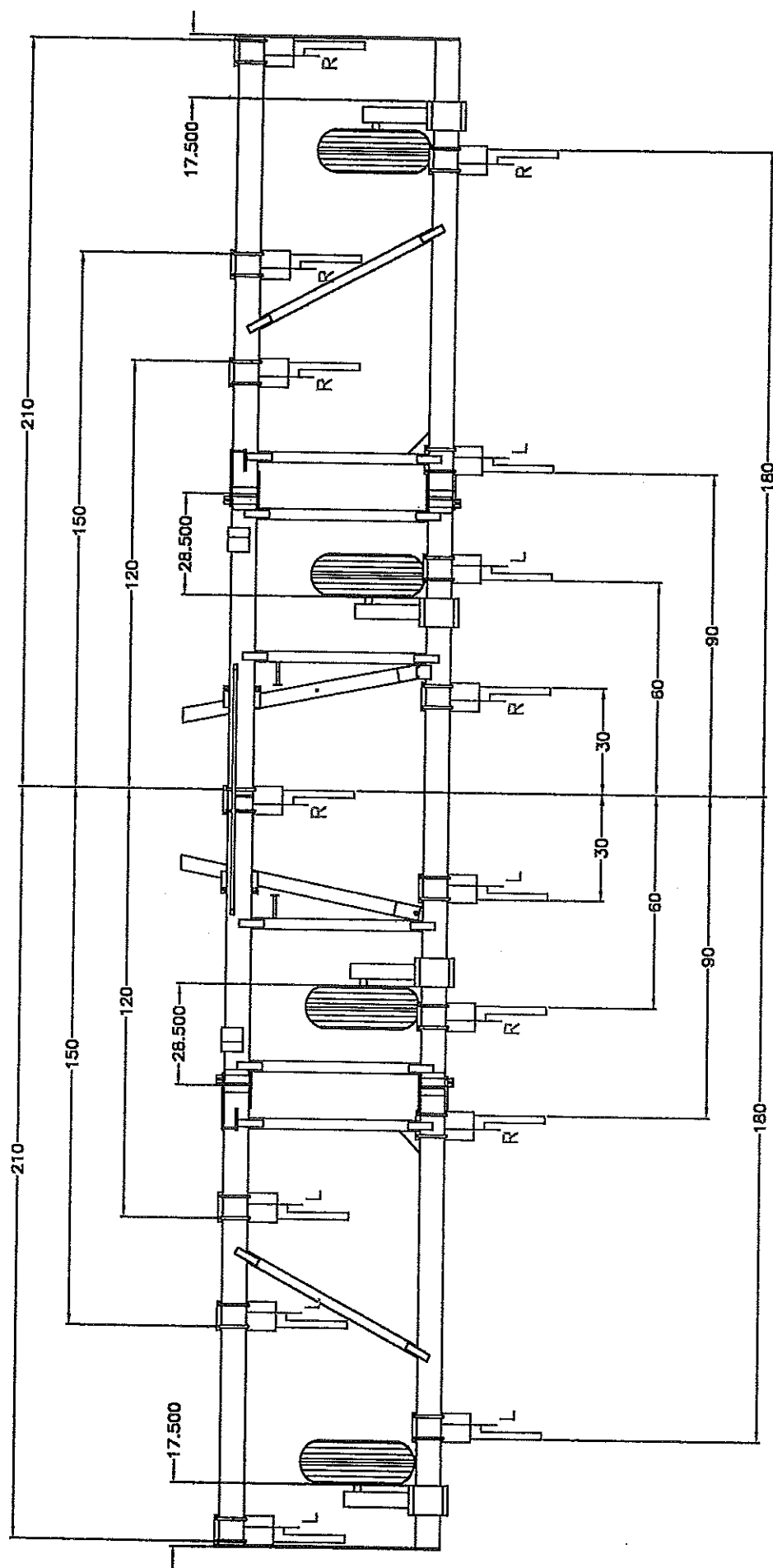
ALL OFFSET BRACKET DIMENSIONS ARE TAKEN FROM THE
CENTER OF THE MAINFRAME TO THE EDGE OF THE BRACKET.

1300 COLTER ROW SPACING 30" ODD ROWS (125" WING)

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.

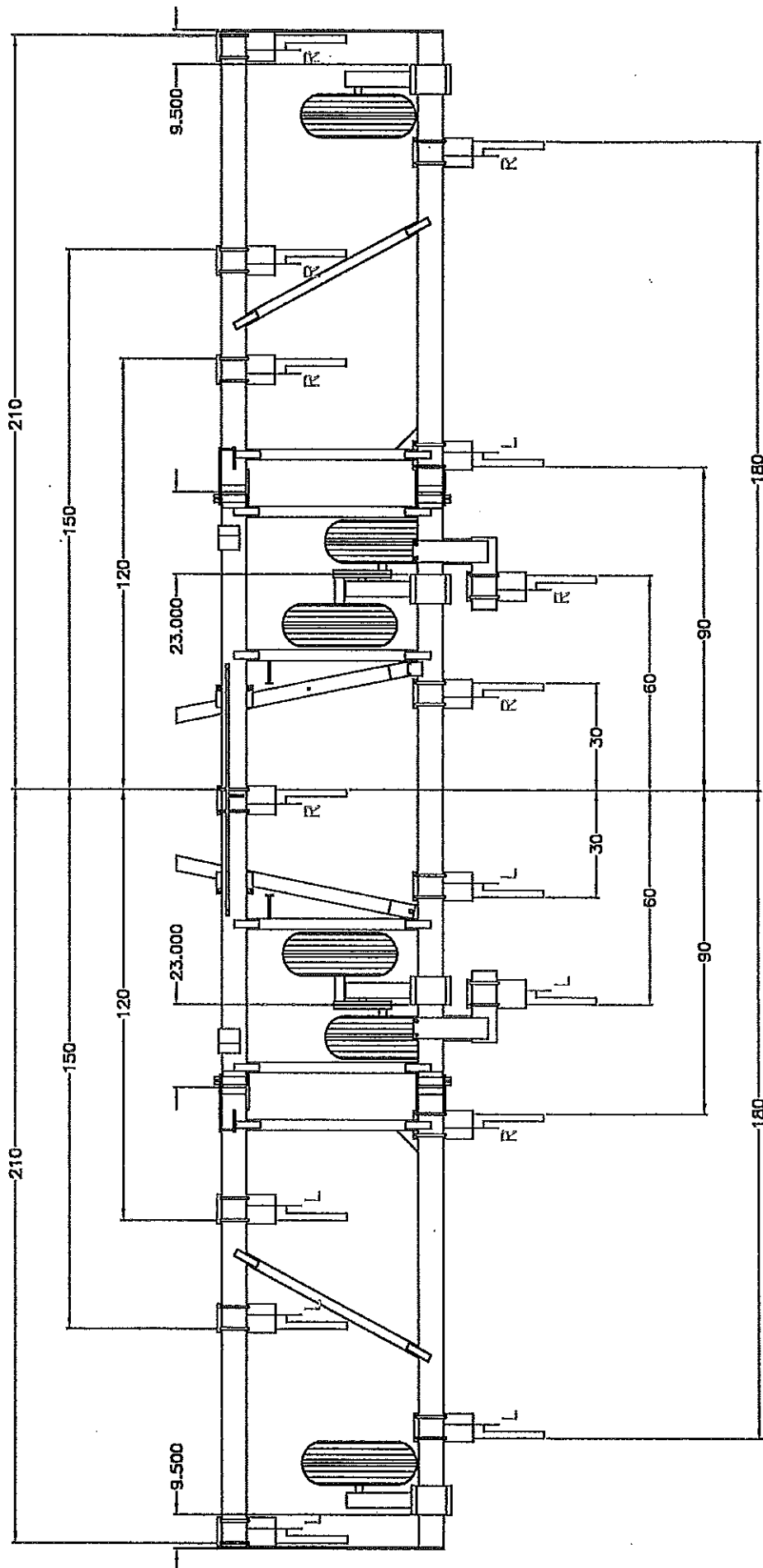


1300 COLTER ROW SPACING
30" ODD ROWS WITH OPTIONAL
TANDEM WHEELS (125" WING)

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.

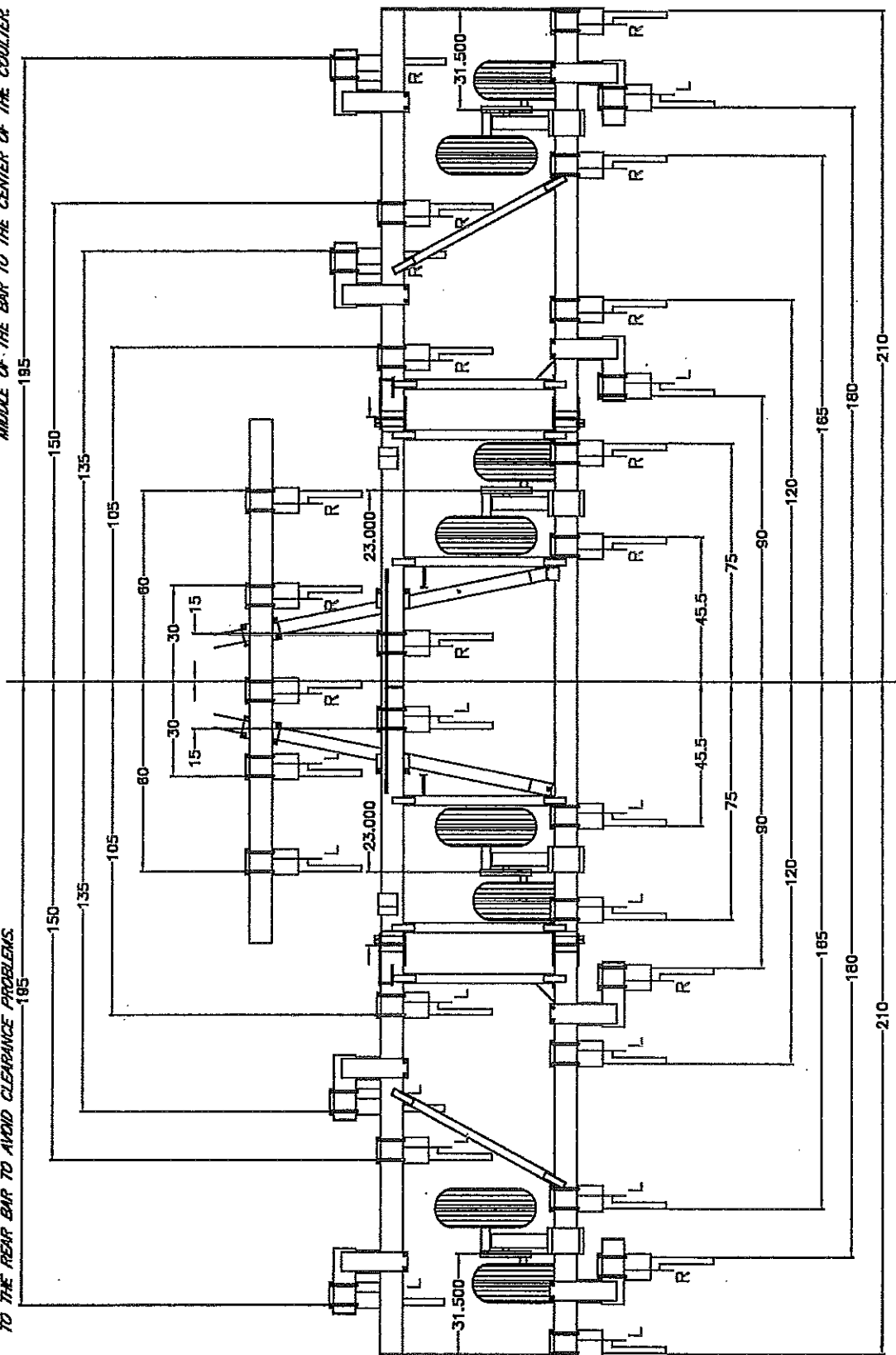
ALL WHEEL DIMENSIONS ARE TAKEN FROM THE
END OF THE WING TO THE EDGE OF THE BRACKET.

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



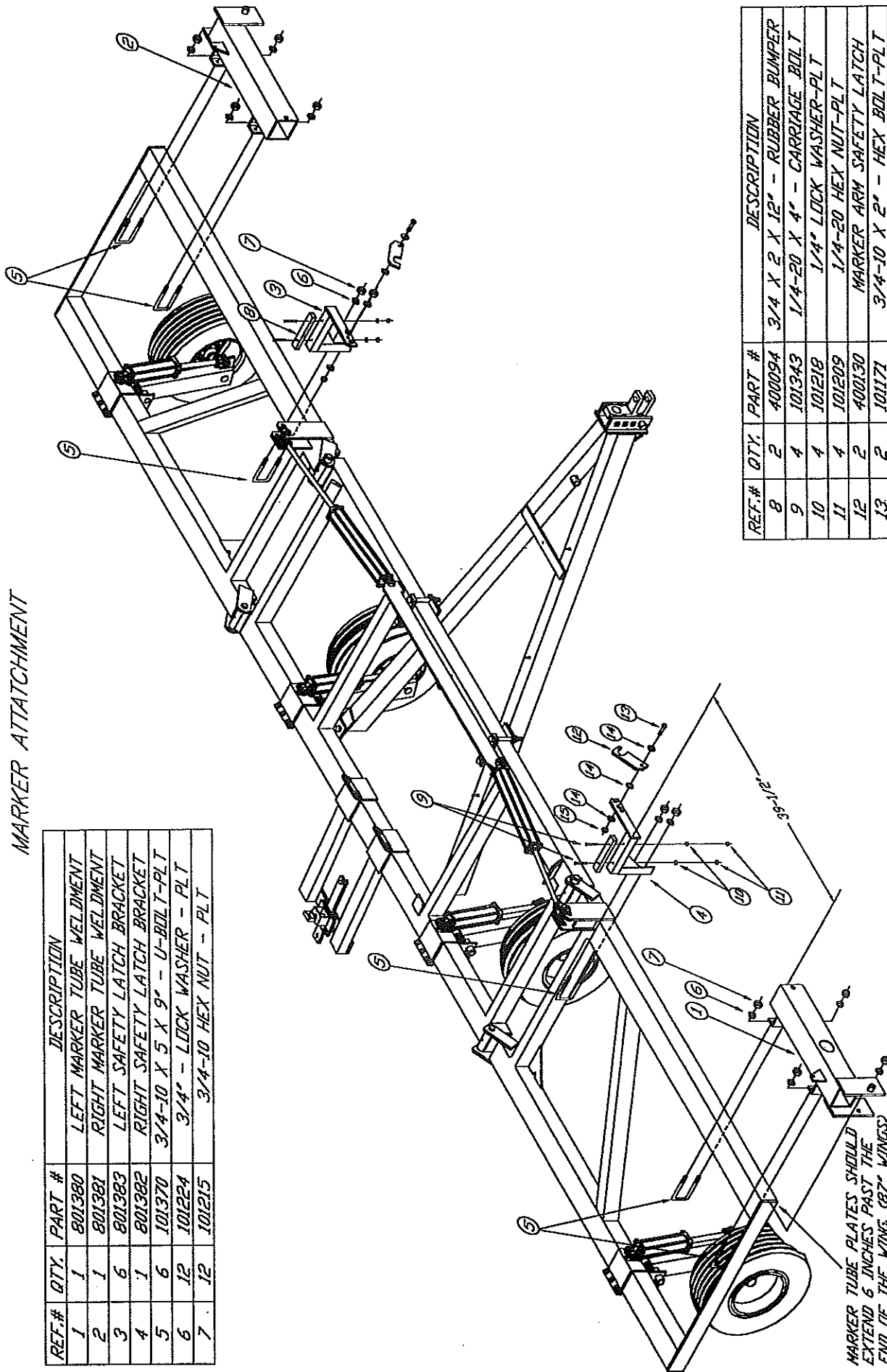
NOTE: WHEN USING OPTIONAL AUTORESET SHAWMS, CONFIGURATION SHOWN MAY RESULT IN STRUCTURAL DAMAGE. TO AVOID THIS, CHECK ALL DISC SEALERS FOR CLEARANCE WHEN SHANK IS IN THE "TRIPPED" POSITION. AS NEEDED, RELOCATE SHAWMS FROM THE FRONT BAR TO THE REAR BAR TO AVOID CLEARANCE PROBLEMS.

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



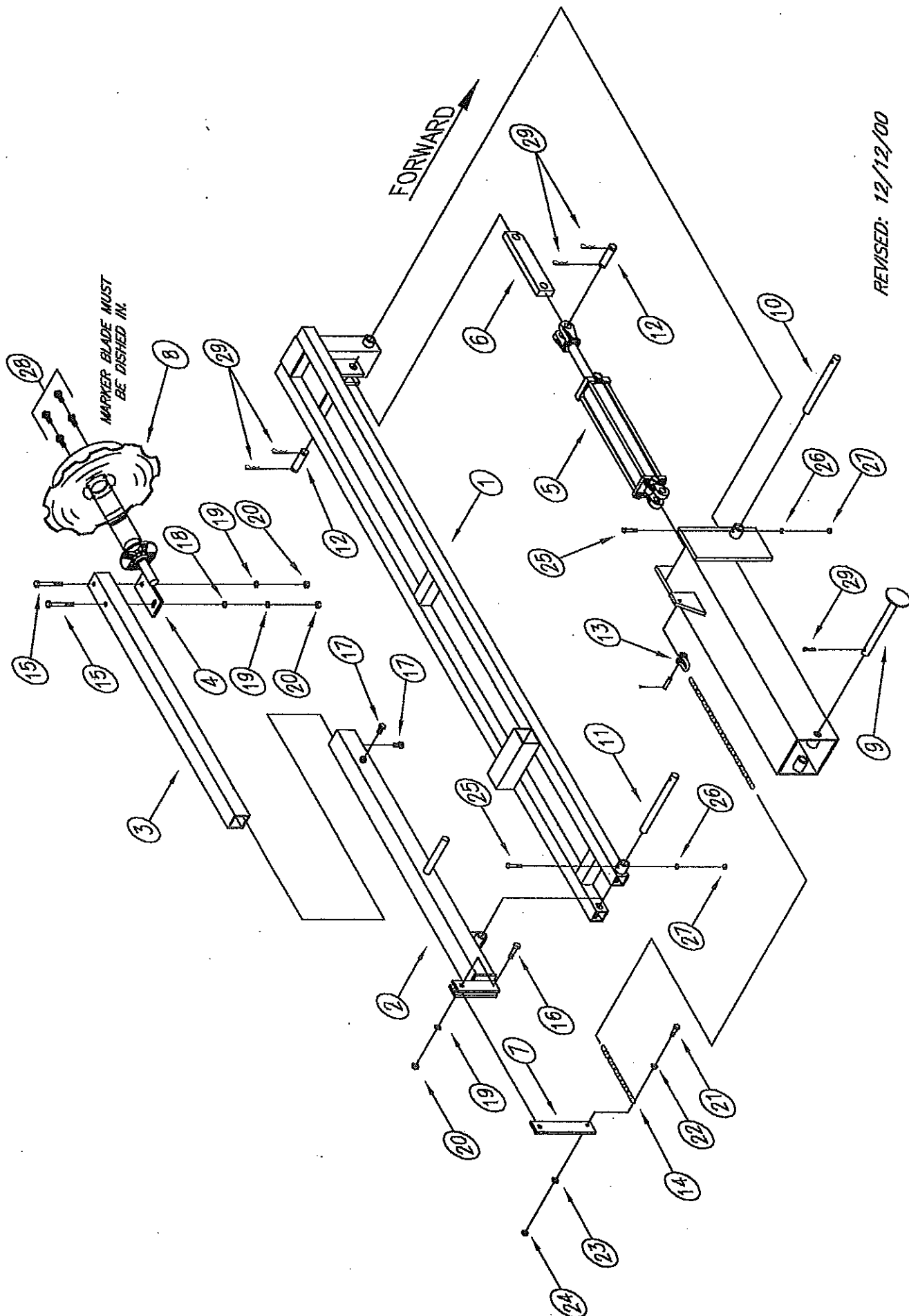
MARKER ATTACHMENT

REF.#	QTY.	PART #	DESCRIPTION
1	1	801380	LEFT MARKER TUBE WELDMENT
2	1	801381	RIGHT MARKER TUBE WELDMENT
3	6	801383	LEFT SAFETY LATCH BRACKET
4	1	801382	RIGHT SAFETY LATCH BRACKET
5	6	101370	3/4-10 X 5 X 9" - U-BOLT-PLT
6	12	101224	3/4" - LOCK WASHER - PLT
7	12	101215	3/4-10 HEX NUT - PLT



REF.#	QTY.	PART #	DESCRIPTION
8	2	400094	3/4 X 2 X 12" - RUBBER BUMPER
9	4	101343	1/4-20 X 4" - CARRIAGE BOLT
10	4	101218	1/4" LOCK WASHER-PLT
11	4	101209	1/4-20 HEX NUT-PLT
12	2	400130	MARKER ARM SAFETY LATCH
13	2	101171	3/4-10 X 2" - HEX BOLT-PLT
14	6	101233	3/4" FLAT WASHER-PLT
15	2	101242	3/4-10 SELF-LOCKING HEX NUT

1300 LEFT MARKER ASSEMBLY - EXPLODED



REVISED: 12/12/00

1300 LEFT MARKER
ASSEMBLY -- EXPLODED

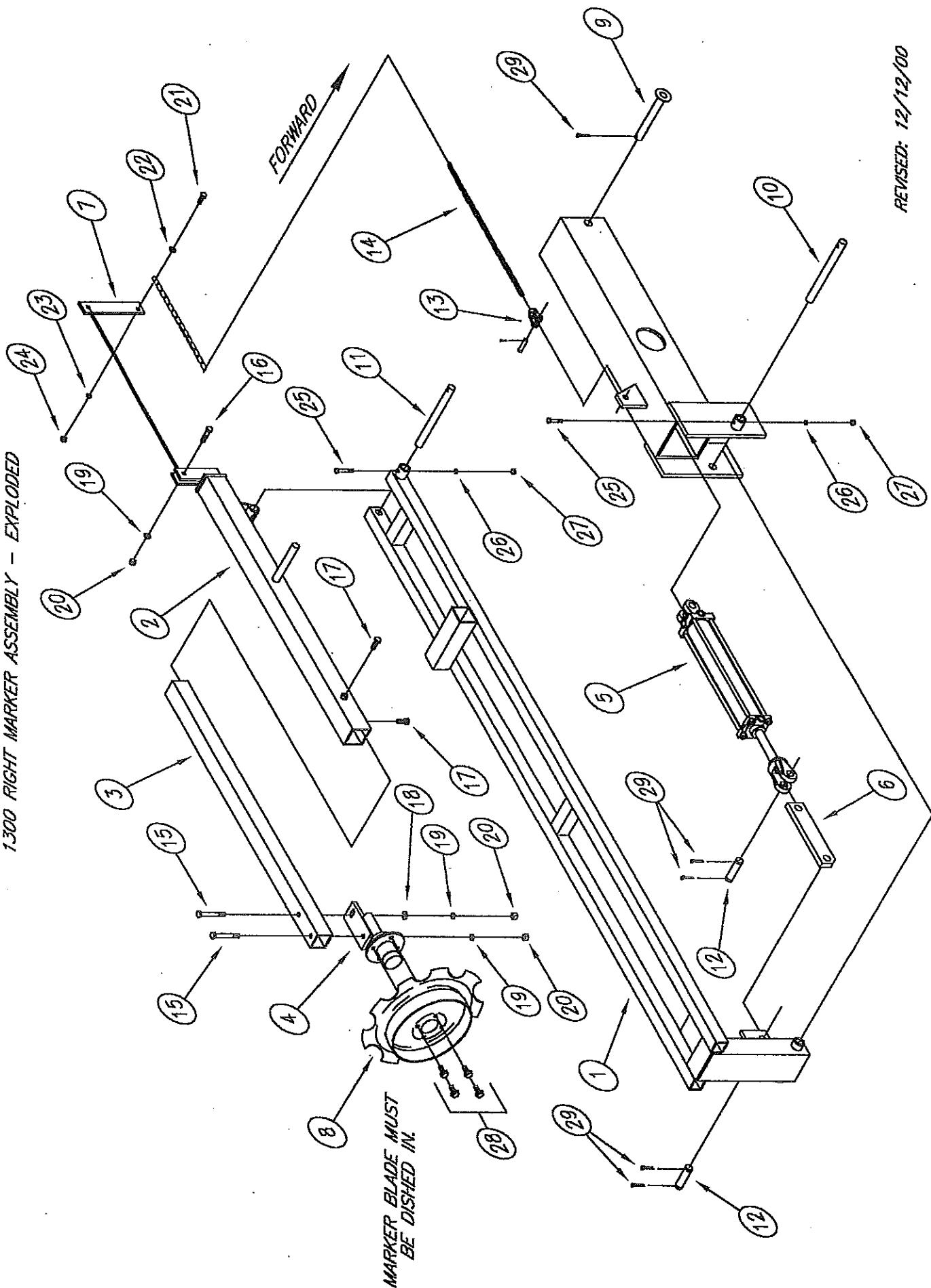
REF. #	QTY.	PART #	DESCRIPTION
1	1	801257	LEFT INNER ARM ASSEMBLY
2	1	801255	LEFT MIDDLE ARM ASSEMBLY
3	1	400121	OUTER ARM TUBE
4	1	400072	LEFT MARKER DISC ASSEMBLY
5	1	204005	HYDRAULIC CYLINDER - 3 X 16
6	1	400104	MARKER DRAG LINK
7	1	400032	PIVOT BRACKET
8	1	400226	18" NOTCHED MARKER DISC W/ DEPTH BAND
9	1	602110	Ø1" X 8" WELDED HINGE PIN
10	1	602164	Ø1" X 10-1/2" PIN
11	1	602117	Ø1" X 11-1/8" PIN
12	2	602136	Ø1" X 3-5/8" PLATED CYLINDER PIN
13	1	101267	CHAIN CLEVIS ASSEMBLY
14	1	101268	9 FT. COIL PROOF CHAIN
15	2	101153	1/2-13 X 4" HEX BOLT
16	1	101149	1/2-13 X 2" HEX BOLT
17	2	101147	1/2-13 X 1" HEX BOLT
18	1	101231	1/2" FLAT WASHER
19	3	101222	1/2" LOCK WASHER
20	3	101213	1/2-13 HEX NUT
21	1	101137	7/16-14 X 1-1/2" HEX BOLT
22	1	101230	7/16" FLAT WASHER
23	1	101221	7/16" LOCK WASHER
24	1	101212	7/16-14 HEX NUT
25	2	101127	3/8-16 X 2" HEX BOLT
26	2	101220	3/8" LOCK WASHER
27	2	101211	3/8-16 HEX NUT
28	4	301193	1/2-20 X 1-1/4" WHIZ BOLT
29	5	101247	7/32 X 2" COTTER PIN

NOTE THAT THE LEFT MARKER DISC
ASSEMBLY INCLUDE THE FOLLOWING:
801323 - LEFT SPINDLE WELDMENT
310159 - 4 BOLT HUB ASSEMBLY

MARKERS COME STANDARD WITH THE
18" NOTCHED BLADES WITH DEPTH
BANDS. TO ORDER 18" NOTCHED
BLADES WITHOUT THE DEPTH BANDS,
USE PART NUMBER 400227.

REVISED: 7/12/01

1300 RIGHT MARKER ASSEMBLY - EXPLODED



REVISED: 12/12/00

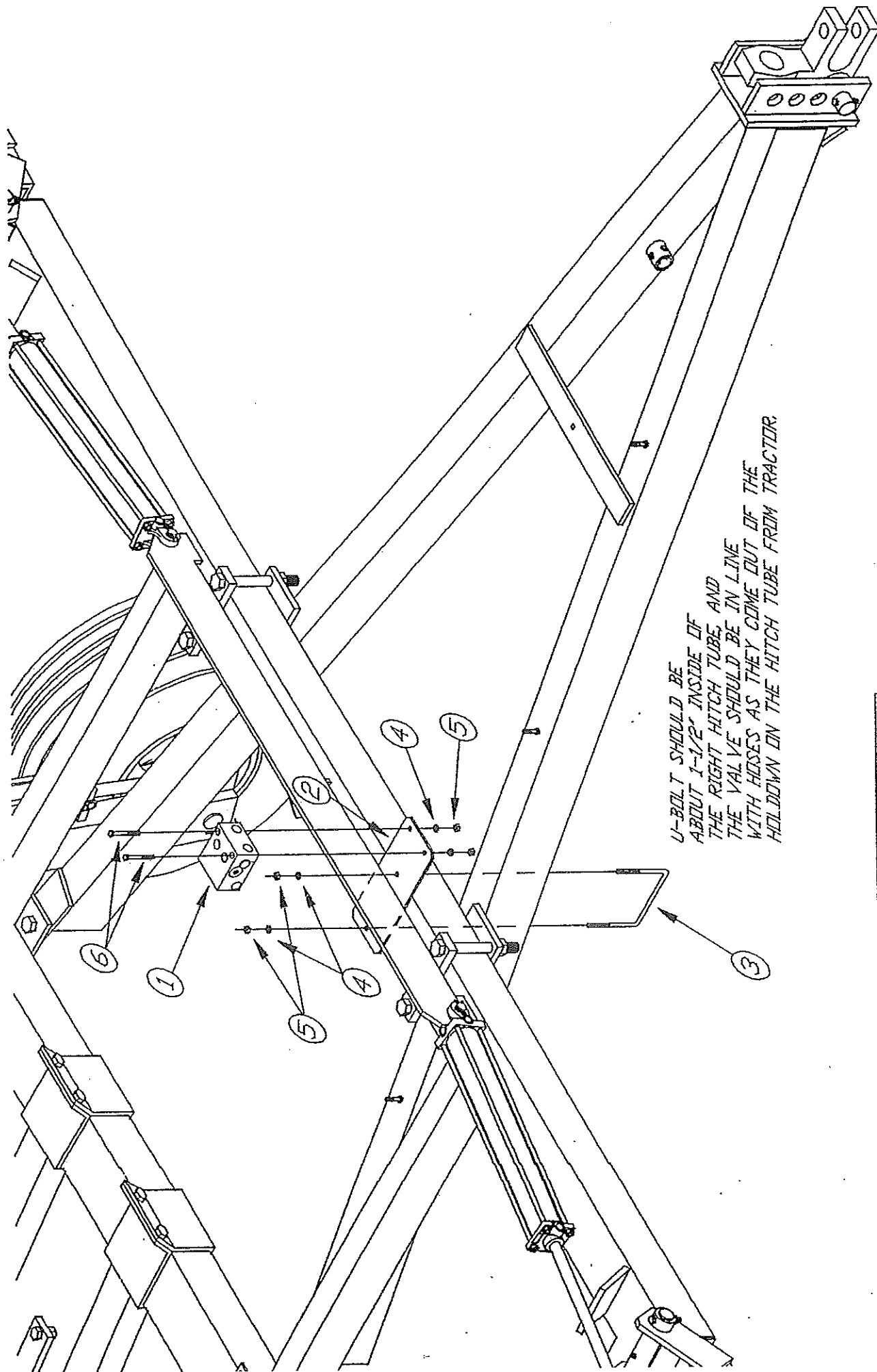
1300 RIGHT MARKER
ASSEMBLY - EXPLODED

REF. #	QTY.	PART #	DESCRIPTION
1	1	801258	RIGHT INNER ARM ASSEMBLY
2	1	801256	RIGHT MIDDLE ARM ASSEMBLY
3	1	400121	OUTER ARM TUBE
4	1	400006	RIGHT MARKER DISC ASSEMBLY
5	1	204005	HYDRAULIC CYLINDER - 3 X 16
6	1	400104	MARKER DRAG LINK
7	1	400032	PIVOT BRACKET
8	1	400226	18" NOTCHED MARKER DISC W/ DEPTH BAND
9	1	602110	Ø1" X 8" WELDED HINGE PIN
10	1	602164	Ø1" X 10-1/2" PIN
11	1	602117	Ø1" X 11-1/8" PIN
12	2	602136	Ø1" X 3-5/8" PLATED CYLINDER PIN
13	1	101267	CHAIN CLEVIS ASSEMBLY
14	1	101268	9 FT. COIL PROOF CHAIN
15	2	101153	1/2-13 X 4" HEX BOLT
16	1	101149	1/2-13 X 2" HEX BOLT
17	2	101147	1/2-13 X 1" HEX BOLT
18	1	101231	1/2" FLAT WASHER
19	3	101222	1/2" LOCK WASHER
20	3	101213	1/2-13 HEX NUT
21	1	101137	7/16-14 X 1-1/2" HEX BOLT
22	1	101230	7/16" FLAT WASHER
23	1	101221	7/16" LOCK WASHER
24	1	101212	7/16-14 HEX NUT
25	2	101127	3/8-16 X 2" HEX BOLT
26	2	101220	3/8" LOCK WASHER
27	2	101211	3/8-16 HEX NUT
28	4	301193	1/2-20 X 1-1/4" WHIZ BOLT
29	5	101247	7/32 X 2" COTTER PIN

NOTE THAT THE RIGHT MARKER DISC
ASSEMBLY INCLUDE THE FOLLOWING:
801324 - RIGHT SPINDLE WELDMENT
310159 - 4 BOLT HUB ASSEMBLY

MARKERS COME STANDARD WITH THE
18" NOTCHED BLADES WITH DEPTH
BANDS. TO ORDER 18" NOTCHED
BLADES WITHOUT THE DEPTH BANDS,
USE PART NUMBER 400227.

REVISED: 7/12/01



REF.#	QTY.	PART #	DESCRIPTION
1	1	203009	COMBINATION-SEQUENCE/SELECTOR VALVE
2	1	400131	1/4 X 6 X 14" - VALVE MOUNTING PLATE
3	1	101371	3/8-16 X 7 X 6" - U-BOLT-PLT
4	4	101220	3/8" - LOCK WASHER-PLT
5	4	101211	3/8-16 HEX NUT-PLT
6	2	101129	3/8-16 X 3'-PLT-GRADE 5

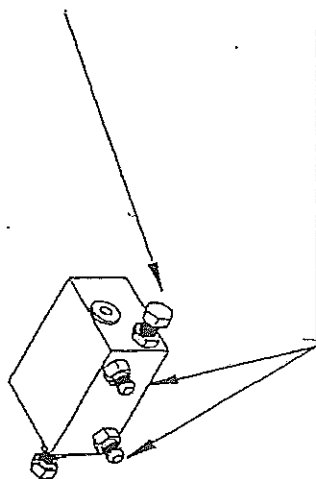
AUTOMATIC SEQUENCE VALVE OPERATION

CAUTION: TAKE CARE WHEN TURNING THE ADJUSTMENT SCREWS OUT THAT YOU DO NOT CUT THE O-RING SEAL BY BACKING THE SCREW OUT TOO FAR.

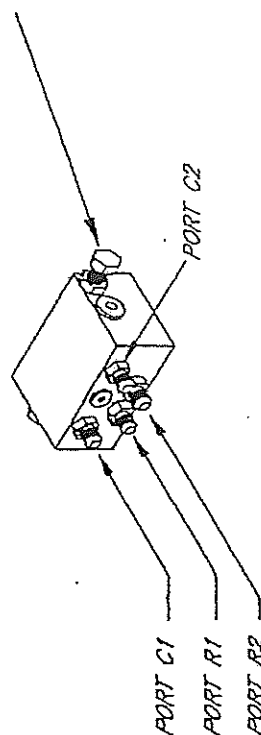
THE AUTOMATIC SEQUENCE VALVE ALLOWS THE ALTERNATE OPERATION OF THE RIGHT AND LEFT MARKERS EACH TIME THE MARKERS ARE "CYCLED". THE OPPOSITE MARKER WILL BE ACTIVATED.

THE RAISE RATE ADJUSTING VALVE ALLOWS THE OPERATOR TO INCREASE OR DECREASE THE SPEED THAT THE MARKER RAISES. ADJUSTING THE VALVE IN (CLOCKWISE ROTATION) WILL DECREASE THE SPEED OF OPERATION. WHILE TURNING THE ADJUSTING SCREW OUT (COUNTERCLOCKWISE) WILL INCREASE THE SPEED. TO ADJUST THE RATE, FIRST LOOSEN THE JAM NUT ON THE SCREW, THEN ADJUST THE SCREW IN OR OUT. BE SURE TO RETIGHTEN THE JAM NUT SECURELY AFTER MAKING ANY ADJUSTMENTS.

THE PORTS DESIGNATED 1 AND 2 ON THE VALVE BLOCK SHOULD POINT FORWARD AND WILL BE ATTACHED TO THE HOSES THAT GO TO THE TRACTOR.

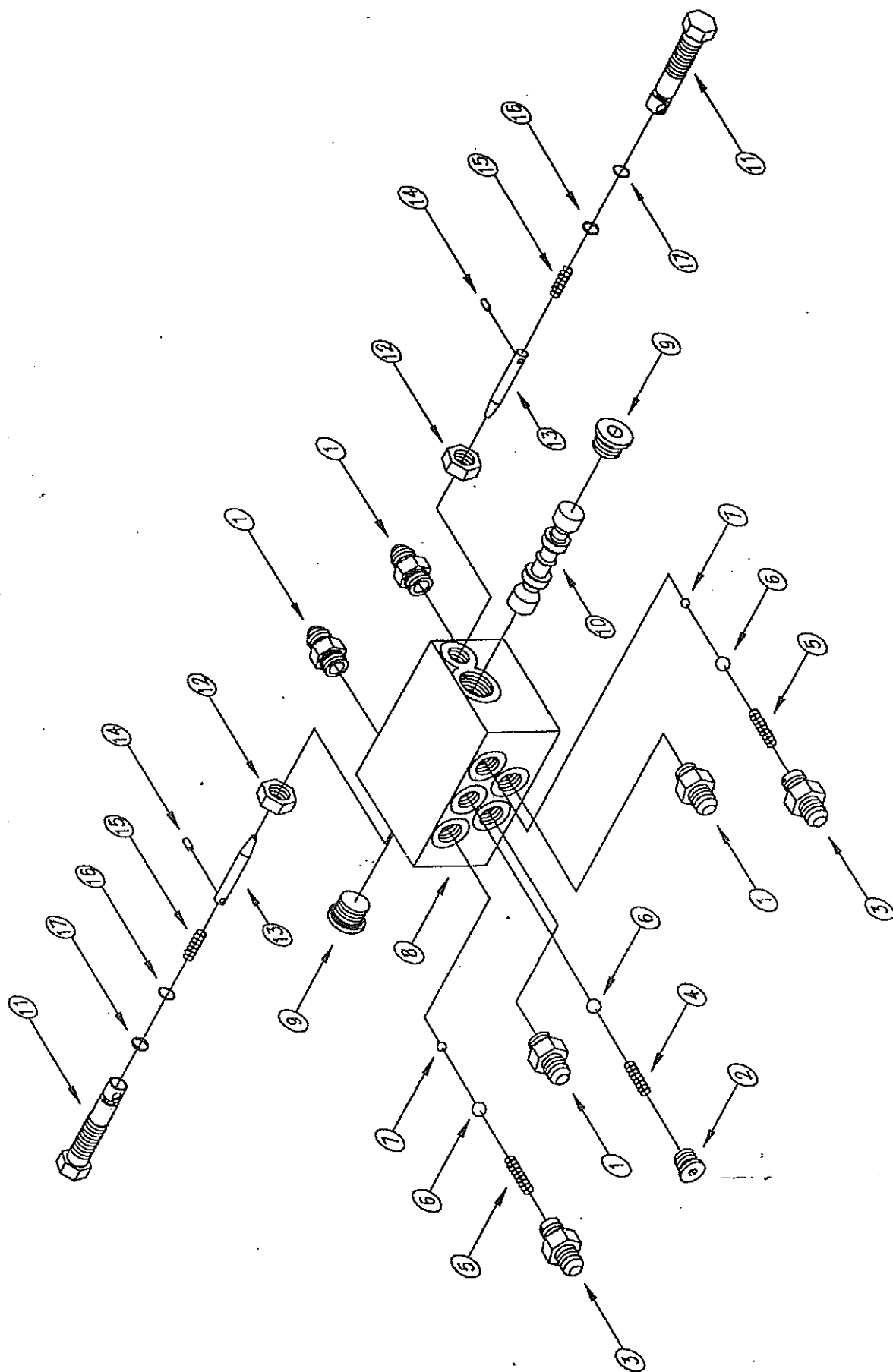


THE LOWER RATE ADJUSTING VALVE ALLOWS THE OPERATOR TO INCREASE OR DECREASE THE SPEED THAT THE MARKER LOWERS. ADJUSTING THE VALVE IN (CLOCKWISE ROTATION) WILL DECREASE THE SPEED OF OPERATION. WHILE TURNING THE ADJUSTING SCREW OUT (COUNTERCLOCKWISE) WILL INCREASE THE SPEED. TO ADJUST THE RATE, FIRST LOOSEN THE JAM NUT ON THE SCREW, THEN ADJUST THE SCREW IN OR OUT. BE SURE TO RETIGHTEN THE JAM NUT SECURELY AFTER MAKING ANY ADJUSTMENTS.



TO OPERATE WITH BOTH MARKERS DOWN:
LET ONE MARKER DOWN INTO THE OPERATING POSITION. "BUMP" THE HYDRAULIC LEVER IN THE DIRECTION THAT WOULD RAISE THE MARKER, BUT DO NOT RAISE THE MARKER. THIS "BUMPING" WILL CAUSE AN INTERNAL SPOOL IN THE VALVE TO SHIFT AND ALLOW OIL TO FLOW TO THE OPPOSITE MARKER CYLINDER. THEN MOVE THE HYDRAULIC LEVER IN THE DIRECTION THAT WILL LOWER THE OTHER MARKER.

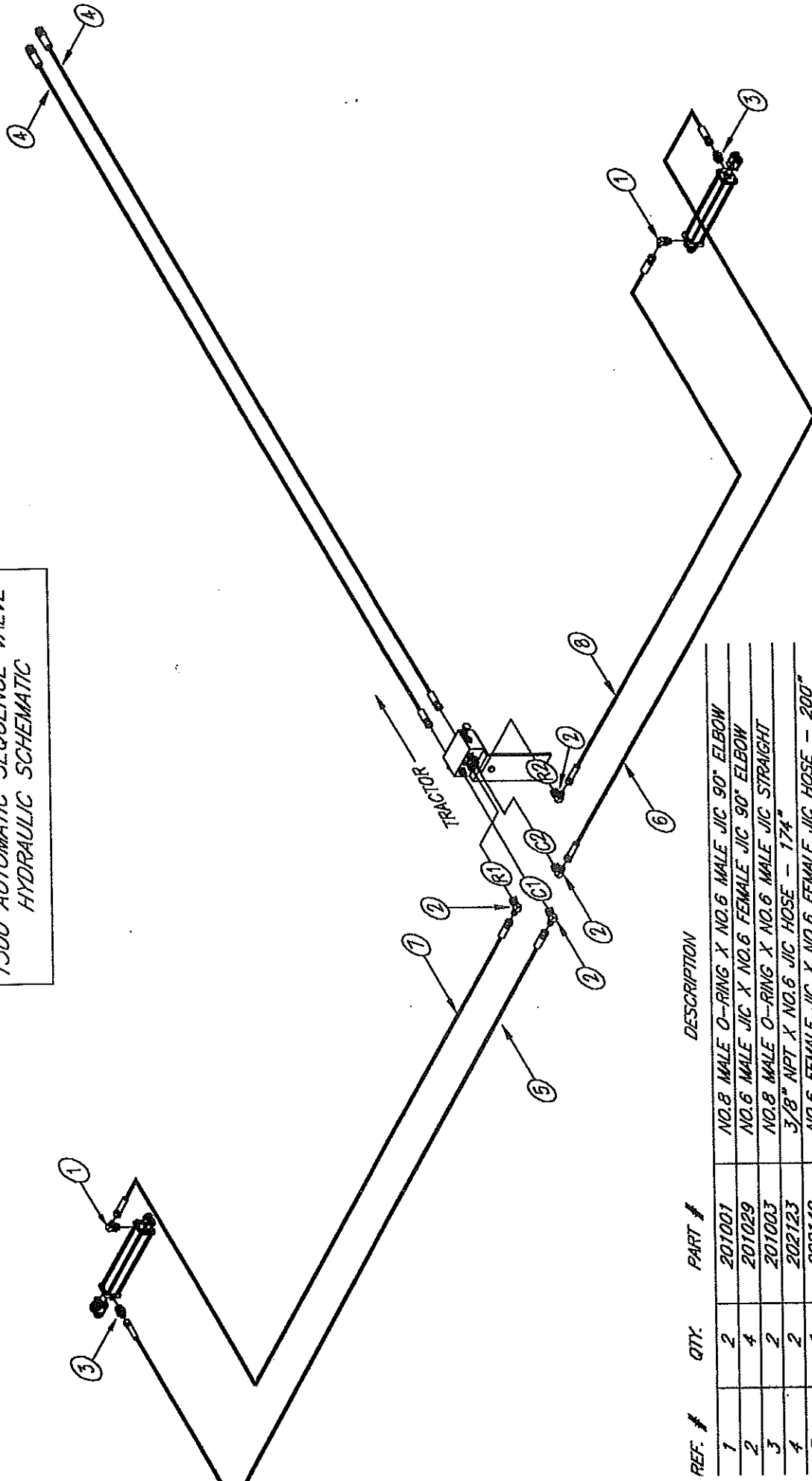
MARKER SEQUENCE/FLOW
CONTROL VALVE



MARKER SEQUENCE/FLOW
CONTROL VALVE

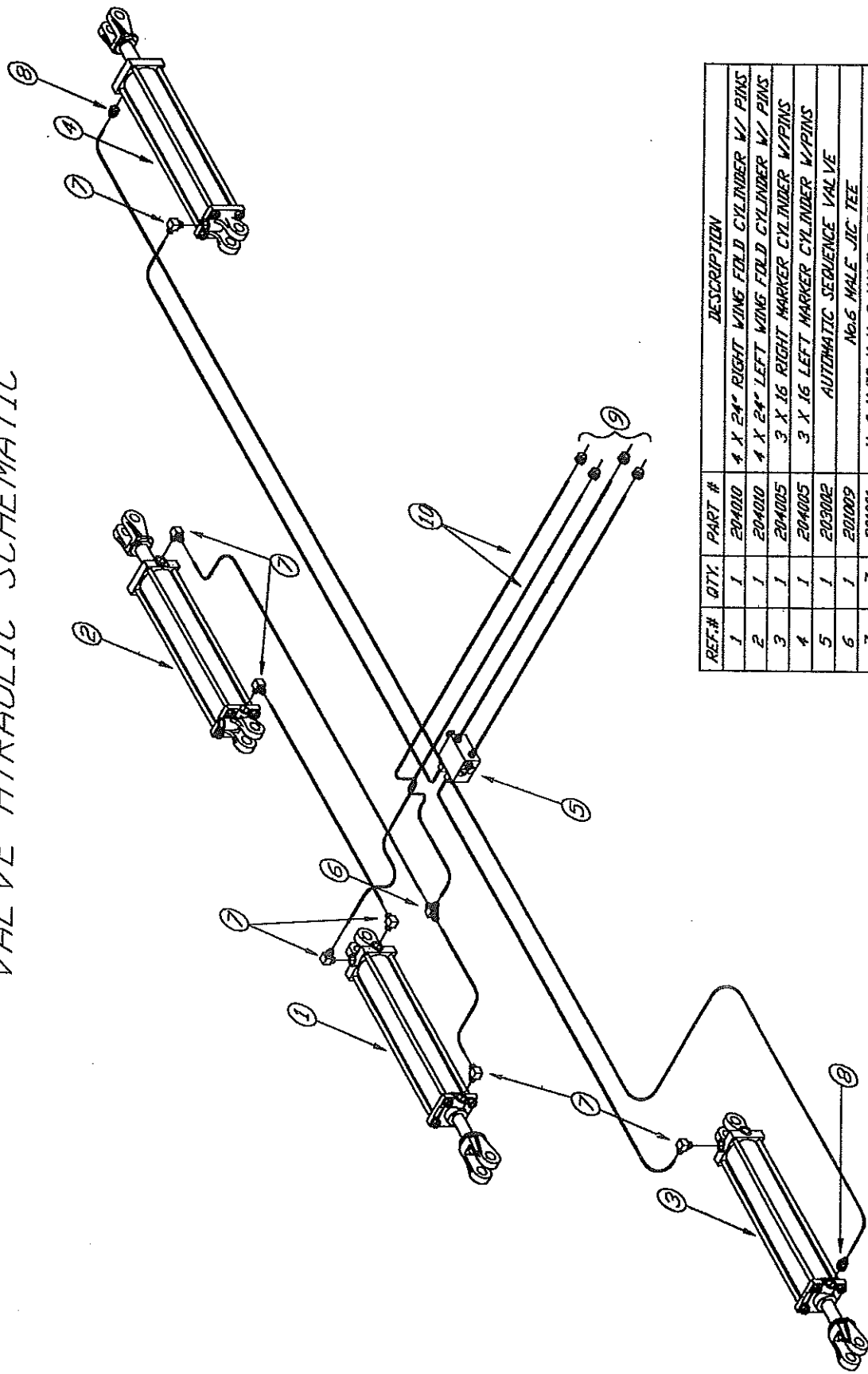
REF. #	QTY.	PART #	DESCRIPTION
1	4	202174	6400-06 - 9/16 MJIC X 9/16 O-RING
2	1	202175	R1034 - HEX SOCKET O-RING PLUG
3	2	202176	R1032 - PORT ADAPTER
4	1	202177	R1033 - DETENT SPRING
5	2	202178	R1036 - SPRING
6	3	202179	R1044 - 7/16" CHECK BALL
7	1	202180	R1043 - 1/4" STEEL BALL
8	1	202181	VALVE BODY (NON-STOCK ITEM)
9	2	202182	R1047 - HEX SOCKET PLUG
10	1	202183	SPOOL (NON-STOCK ITEM)
11	2	202184	R1042 - ADJUSTMENT SCREW
12	2	202185	R1048 - 1/2-20 JAM NUT
13	2	202186	R1038 - NEEDLE
14	2	202187	R1039 - SPRING PIN
15	2	202188	R1046 - COMPRESSION SPRING
16	2	202189	R1040 - O-RING
17	2	202190	R1041 - TEFLON BU RING
18	-	202191	A5552 - VALVE ASSEMBLY COMPLETE (1-17)
19	-	202192	A5572 - FLOW CONTROL UNIT (11-17)

1300 AUTOMATIC SEQUENCE VALVE
HYDRAULIC SCHEMATIC



REF. #	QTY.	PART #	DESCRIPTION
1	2	201001	NO. 8 MALE O-RING X NO. 6 MALE JIC 90° ELBOW
2	4	201029	NO. 6 MALE JIC X NO. 6 FEMALE JIC 90° ELBOW
3	2	201003	NO. 8 MALE O-RING X NO. 6 MALE JIC STRAIGHT
4	2	202123	3/8" NPT X NO. 6 JIC HOSE - 174"
5	1	202149	NO. 6 FEMALE JIC X NO. 6 FEMALE JIC HOSE - 200"
6	1	202148	NO. 6 FEMALE JIC X NO. 6 FEMALE JIC HOSE - 168"
7	1	202097	NO. 6 FEMALE JIC X NO. 6 FEMALE JIC HOSE - 172"
8	1	202012	NO. 6 FEMALE JIC X NO. 6 FEMALE JIC HOSE - 131"

1300 AUTOMATIC SEQUENCE VALVE HYRAULIC SCHEMATIC



REF.#	QTY.	PART #	DESCRIPTION
1	1	204010	4 X 24" RIGHT WING FOLD CYLINDER W/ PINS
2	1	204010	4 X 24" LEFT WING FOLD CYLINDER W/ PINS
3	1	204005	3 X 16 RIGHT MARKER CYLINDER W/PINS
4	1	204005	3 X 16 LEFT MARKER CYLINDER W/PINS
5	1	203002	AUTOMATIC SEQUENCE VALVE
6	1	201009	No.6 MALE JIC TEE
7	7	201001	No.6 MJIC X No.8 MALE O-RING BROSS 90
8	2	201003	No.6 MJIC X No.8 MALE O-RING STRAIGHT
9	2	201015	1/2" MNPT X 1/4" FNPT BUSHING
10	2	202023	1/4 X 174" X 3/8 MNPT X 65 IN HOSE

HOSE CONFIGURATION FOR 1300 TOOL BAR MARKERS

PORT	HOSE DESTINATION	LENGTH	PART #
A	TO TRACTOR	174"	202123
B	TO TRACTOR	174"	202123
C	TO ROD END OF RIGHT MARKER CYLINDER.	131"	202012
D	TO ROD END OF LEFT MARKER CYLINDER.	172"	202097
E	TO BUTT END OF RIGHT MARKER CYLINDER.	168"	202148
F	TO BUTT END OF LEFT MARKER CYLINDER.	200"	202149
G	TO BUTT END OF THE RIGHT WING FOLD CYLINDER. (TOP PORT)	20"	202001
J	20" HOSE TO TEE SERVING ROD END OF THE RIGHT WING FOLD CYLINDER AND ROD END OF THE LEFT WING FOLD CYLINDER.	20"	202001
		30"	202117
		105"	202048
	TO BUTT END OF LEFT WING CYLINDER FROM BUTT END OF RIGHT WING CYLINDER.	80"	202138

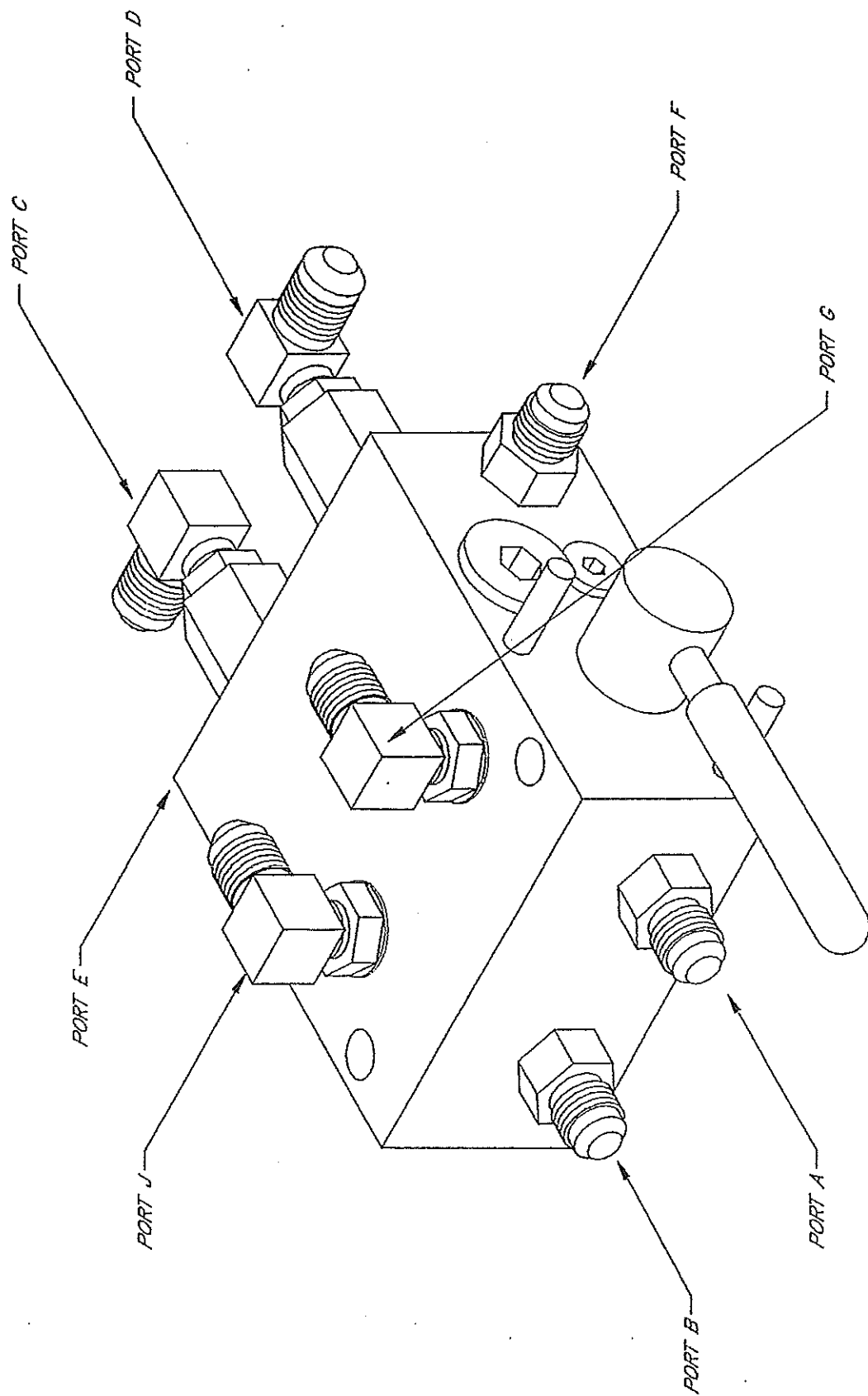
ROUTE ALL HOSES ACROSS THE FRAME SECURING WITH NYLON TIES
MAKE CERTAIN MARKER HOSES ARE NOT BINDING, PULLING TIGHT,
OR IN A POSITION TO BE PINCHED BY MOVING PARTS.

COMBINATION VALVE PORT IDENTIFICATION AND FUNCTION

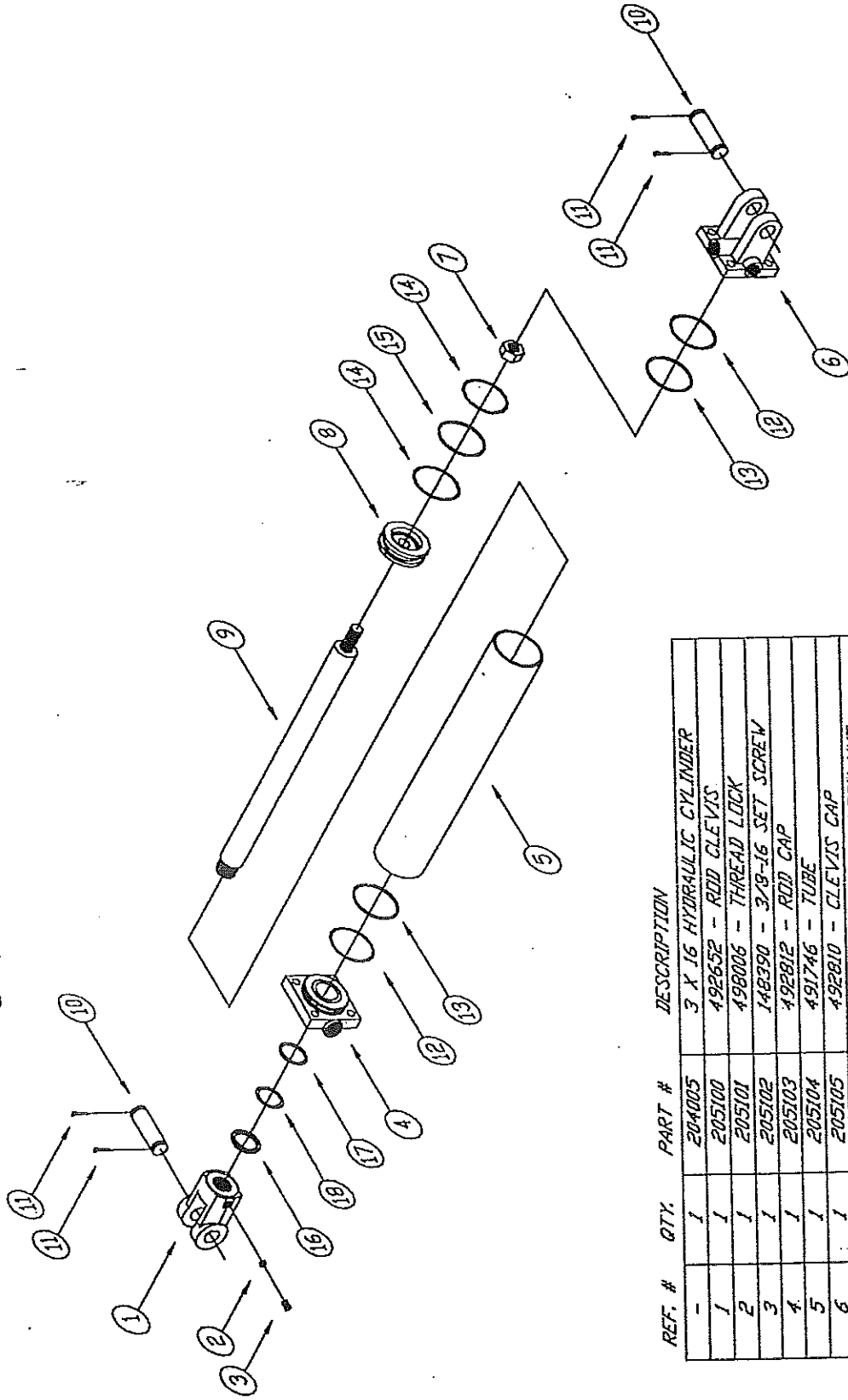
ALL PORTS ARE NO.6 MALE JIC FITTINGS.

PORTS C,D,E, AND F ARE OPERATIONAL WHEN THE VALVE HANDLE IS HORIZONTAL AS SHOWN BELOW. PORTS C,D,E, AND F ARE ALL MARKER FUNCTION PORTS.

PORTS J AND G ARE OPERATIONAL WHEN THE VALVE HANDLE IS VERTICAL. PORTS J AND G ARE FOLD FUNCTION PORTS.



LION 2500 TL SERIES 3 X 16 CYLINDER (EXPLODED)



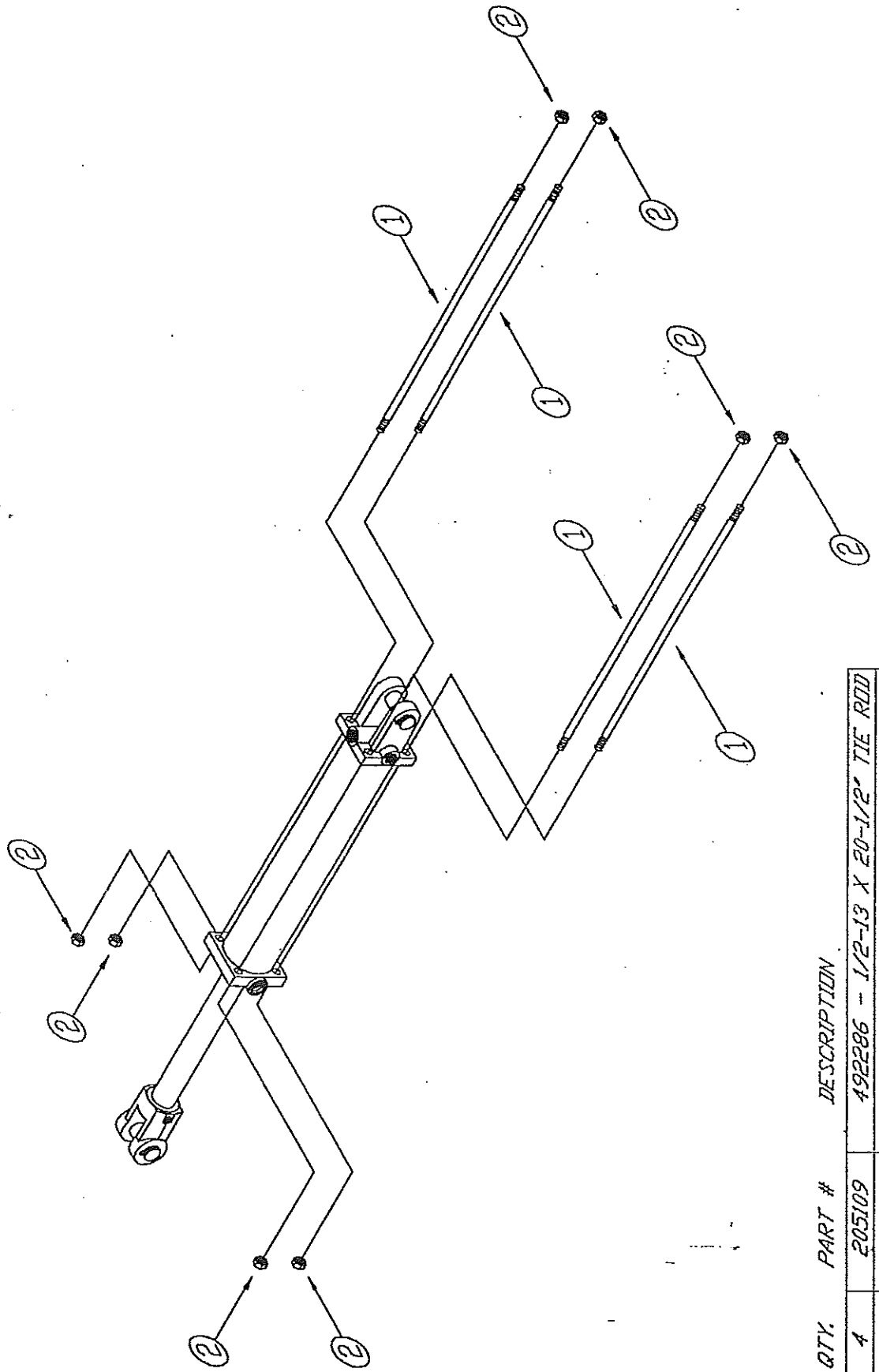
REF. # QTY. PART # DESCRIPTION

-	1	204005	3 X 16 HYDRAULIC CYLINDER
1	1	205100	492652 - ROD CLEVIS
2	1	205101	498006 - THREAD LOCK
3	1	205102	148390 - 3/8-16 SET SCREW
4	1	205103	492812 - ROD CAP
5	1	205104	491746 - TUBE
6	1	205105	492810 - CLEVIS CAP
7	1	205106	129110 - 1-1/2-12 LOCK NUT
8	1	205107	492520 - PISTON
9	1	205108	492873 - ROD
10	2	602136	Ø1" X 3-5/8" PLATED CYLINDER PIN
11	4	101266	Ø3/16" HAIRPIN
12	2	205017	Ø40 O-RING BU.
13	2	205018	Ø10 O-RING
14	2	205019	Ø14 O-RING BU.

REF. # QTY. PART # DESCRIPTION

15	1	205020	Ø12 O-RING
16	1	205021	Ø13 WIPER
17	1	205022	Ø11 ROD O-RING
18	1	205023	Ø24 ROD BU.
-	1	205016	SEAL KIT COMPLETE

LION 2500 TL SERIES 3 X 16 CYLINDER TIE ROD INSTALLATION



REF. #	QTY.	PART #	DESCRIPTION
1	4	205109	492286 - 1/2-13 X 20-1/2" TIE ROD
2	8	101213	1/2-13 HEX NUT



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.**

