

HAYBUSTER

3200

UNDER CUTTER

**DEALER SET UP
OPERATION MANUAL
PARTS BOOK**

HAYBUSTER 3200 UNDER CUTTER

WARRANTY

Haybuster Mfg. Inc., warrants to the original purchaser for one year from purchase date that this product will be free from defects in material and workmanship when used as intended and under normal maintenance and operating conditions. This warranty is limited to the replacement of any defective part or parts returned to our factory in Jamestown, North Dakota within thirty (30) days of failure.

This warranty shall become void if in Haybuster Mfg. Inc.'s judgment the machine has been subject to misuse, negligence, alterations, damaged by accident or lack of required normal maintenance, or if the product has been used for a purpose for which it was not designed.

All claims for warranty must be made through the dealer which originally sold the product and all warranty adjustments must be made through the same.

This warranty does not apply to tires or bearings or any other trade accessories not manufactured by Haybuster Mfg. Inc. Buyer must rely solely on the existing warranty, if any, of these respective manufacturers.

Haybuster Mfg. Inc., shall not be held liable for damages of any kind, direct, contingent, or consequential to property under this warranty. Haybuster Mfg. Inc., cannot be held liable for any damages resulting from causes beyond its control. Haybuster Mfg. Inc., shall not be held liable under this warranty for loss of crops, or rental costs or any expense or loss for labor or supplies.

Haybuster Mfg. Inc., reserves the right to make changes in material and/or designs of this product at anytime without notice.

This warranty is void if Haybuster Mfg. Inc., does not receive a valid warranty registration card at its office in Jamestown, North Dakota within ten (10) days from date of original purchase.

All other warranties made with respect to this product, either expressed or implied, are hereby disclaimed by Haybuster Mfg. Inc.

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SAFETY INSTRUCTIONS

The safety of the operator is of great importance to those at Haybuster Manufacturing Company. We have provided decals, shields, and other safety features for your protection. In addition, we ask you to be a careful operator who will properly use and service your Haybuster equipment.

WARNING: BEFORE ATTEMPTING TO OPERATE THIS MACHINE, CAREFULLY READ ALL INSTRUCTIONS CONTAINED IN THIS MANUAL.

Before Operating

1. Be sure all safety shields and covers are securely in place when machine is running.
2. Read all warning and instructional decals placed on the machine for your safety and convenience.
3. Allow only responsible, properly instructed individuals to operate machine. Carefully supervise inexperienced operators.
4. Make no modifications to this equipment unless specifically requested or recommended by Haybuster Manufacturing Company.
5. Tighten or replace any loose or cracked bolts, hoses or connections.
6. The towing vehicle must be of equal or greater weight than the implement for adequate braking capacity.

During Operation

1. Exercise extreme caution when operating the implement on steep slopes or grades.
2. Be sure all spectators are clear of the area where the implement is in operation or raised and lowered.
3. Be sure the tractor operator is the only person riding the tractor. Allow no one to ride the U.C. at any time.
4. REMEMBER, loose clothing, necklaces and similar items are more easily caught in moving parts. Avoid the use of these items if possible and keep long hair confined.
5. Never work under the implement when the implement is lifted up unless the safety stop is in position.
6. Watch out for and avoid any object that might interfere with the proper operation of the machine.

During Service and Maintenance

1. Before working on or near implement for any reason including servicing, lubricating, cleaning, inspecting or refilling:
 - A. Shut off tractor engine.
 - B. Set park brake.
 - C. Remove key.
 - D. If working under implement or detaching from tractor, install safety stop (next to hydraulic cylinder).

2. When replacing any part of your implement, be sure to use only Haybuster authorized parts.
3. Relieve all pressure in the hydraulic system before disconnecting the lines or performing other work on the system. Make sure all connections are tight and the hoses and lines are in good condition before applying pressure to the system.
4. Hydraulic fluid escaping under pressure can be invisible and have enough force to penetrate the skin. When searching for a suspected leak, use a piece of wood or cardboard rather than your hands. If injured, seek medical attention immediately to prevent serious infection or reaction.
5. Be careful when using a hoist or other lifting devices. Use only devices that have adequate lifting capacity and be sure the chain or cable is securely attached.

When Transporting On Public Roads

1. Use good judgment and drive carefully, especially over rough or uneven roads.
2. Be sure tractor brakes are properly adjusted and foot pedals locked together.
3. Check your state laws regarding the use of lights, slow moving vehicle sign, safety chain and other possible requirements.
4. When preparing implement for transport, always use safety pins to secure wings when in raised position, and safety stop (next to hydraulic cylinder) must be engaged during transporting.
5. Do not tow implement at speeds over 10 mph.

WARNING: FAILURE TO COMPLY WITH ANY OF THE SAFETY INSTRUCTIONS ON THE PRECEDING PAGES OR THOSE THAT FOLLOW WITHIN THIS MANUAL MAY RESULT IN SEVERE INJURY OR DEATH.

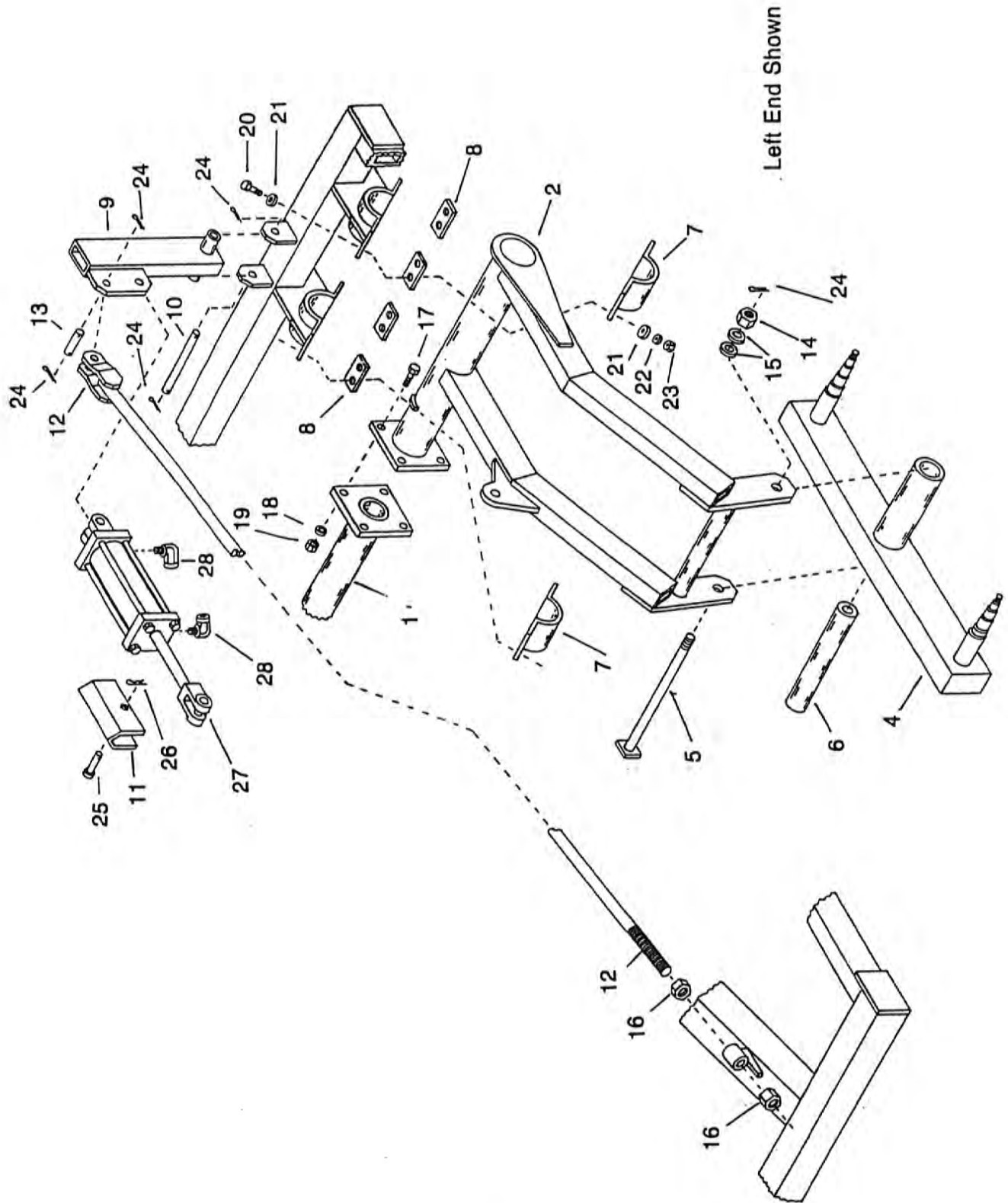
THIS U.C. IS NOT TO BE USED FOR ANY PURPOSE OTHER THAN THAT FOR WHICH IT IS INTENDED AS EXPLAINED IN THE OPERATOR'S MANUAL, ADVERTISING MATERIALS AND OTHER PERTINENT WRITTEN MATERIALS PREPARED BY HAYBUSTER MANUFACTURING CO.

Safety decals located on your machine contain important and useful information that will help you operate your equipment safely.

To assure that all decals remain in place and remain in good condition, follow the instructions given below:

1. Keep decals clean. Use soap and water - not mineral spirits, adhesive cleaners and other similar cleaners that will damage the decal.
2. Replace any damaged or missing decals. When attaching decals, surface temperature of the metal must be at least 40° Fahrenheit. The metal must also be clean and dry.
3. When replacing a machine component to which a decal is attached, be sure to also replace the decal.
4. Replacement decals can be purchased from your Haybuster dealer.

CENTER SECTION WHEEL INSTALLATION

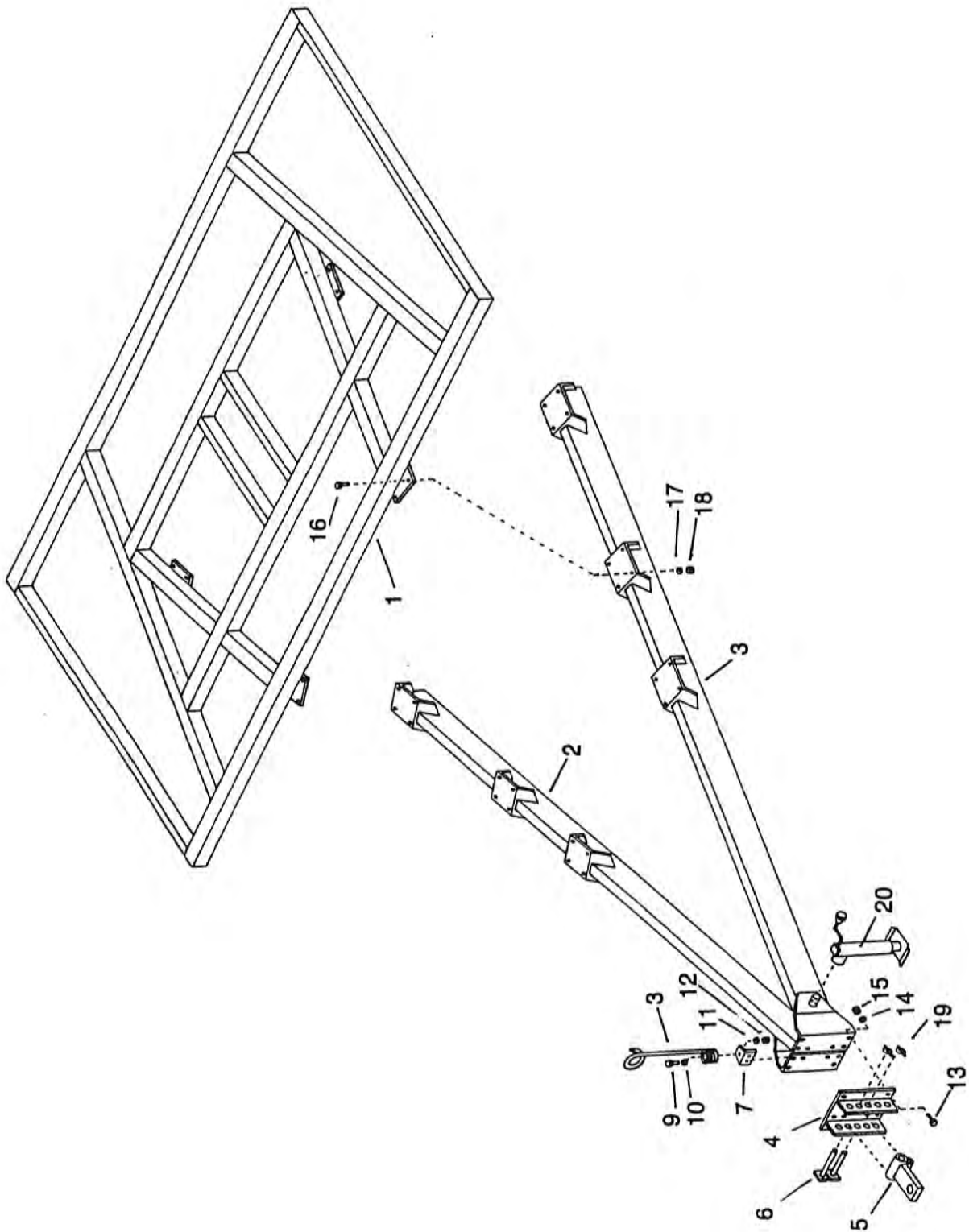


CENTER SECTION WHEEL INSTALLATION

STEP 1

1. Block up center section on barrels or stands. Grease hinge clamp No. 7, and hinge mount on center section.
2. Install rock shaft end section No. 2, rock shaft hinge clamp No. 7, and shims No. 8, with $\frac{1}{2}$ " x 2" bolts No. 20, flat washer No. 21, lock washer No. 22, nuts No. 23. *NOTE: Hinge should be tight without binding rock shaft. (Install shims as needed!)
3. Insert pivot tube No. 6, into walking beam No. 4. Mount walking beam into rock shaft end section with $1\frac{1}{4}$ " pin No. 5, $1\frac{1}{4}$ " flat washer No. 15, $1\frac{1}{4}$ " castle nut No. 14, and $\frac{1}{4}$ " x 2" cotter pin No. 24.
4. Bolt wheel and tire assembly on hubs with wheel bolts.
5. Install cylinder mount No. 9, on frame with 1" x $8\frac{1}{4}$ " pin No. 10, and $\frac{1}{4}$ " cotter pins No. 24.
6. Install one $1\frac{1}{4}$ " nut No. 16, on threaded end of linkage rod No. 12. Grease threads liberally before inserting rod through tubing or frame and install remaining $1\frac{1}{4}$ " nuts. Mount clevis end of rod using 1" x $2\frac{7}{8}$ " pin No. 13, and two $\frac{1}{4}$ " x 2" cotter pins No. 24. Adjust linkage rod No. 12, so that cylinder mount No. 9, is 90° to the top of the frame.
7. Install 4" x 8" slave cylinders No. 27, between cylinder mount and rock shaft end section. Extend rams fully and fasten cylinder safety stop No. 11, over ram with $\frac{3}{4}$ " x $2\frac{1}{2}$ " clevis pin No. 25, and $\frac{3}{16}$ " hair pin No. 26.
8. Bolt torque tube center section No. 1, between the end sections with $\frac{3}{4}$ " x $2\frac{1}{2}$ " bolts No. 17, lock washers No. 18, and nuts No. 19.

HITCH INSTALLATION

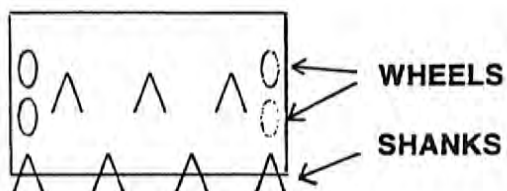


HITCH INSTALLATION

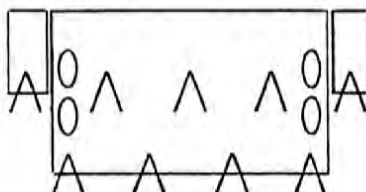
9. Mount hitch beams No. 2 and No. 3, on center section with 5/8" x 1 1/2" bolts No. 16, lock washers No. 17, and nuts No. 18.
10. Bolt hitch plate No. 4, and hose minder mount No. 7, to hitch beams using 3/4" x 2" bolts No. 13, lock washers No. 14, and nuts No. 15.
11. Install jack No. 20.
12. Mount hitch block No. 5, with hitch block pin No. 6, and 5/16" klick pin No. 19.
13. Bolt hose minder No. 8, to hose minder mount No. 7, with 1/2" x 1 1/2" bolt No. 9, flat washer No. 10, lock washer No. 11, nut No. 12.
14. Remove support barrels or stands.

3200 UNDER CUTTER

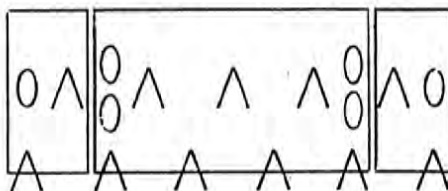
15' CENTER SECTION



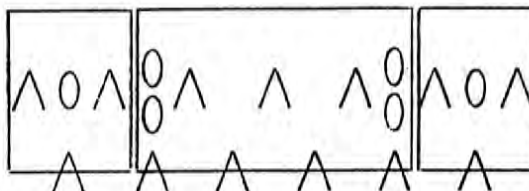
20' CENTER SECTION
(2) 1 SHANK EXTENSIONS



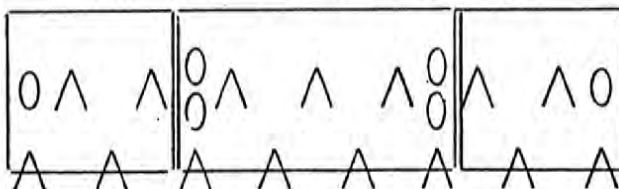
24' CENTER SECTION
(2) 2 SHANK WINGS



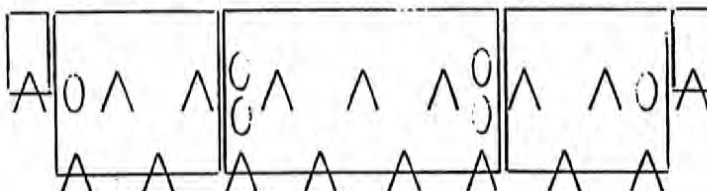
28' CENTER SECTION
(2) 3 SHANK WINGS



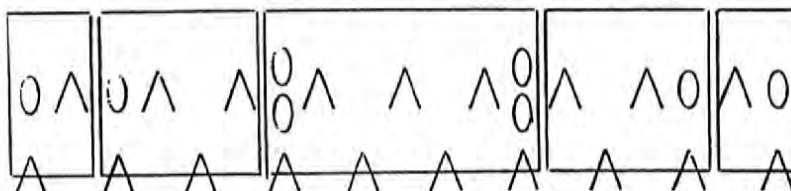
33' CENTER SECTION
(2) 4 SHANK WINGS



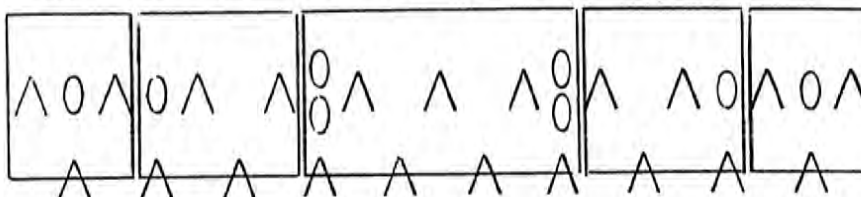
37' CENTER SECTION
(2) 4 SHANK WINGS
(2) 1 SHANK EXTENSIONS



41' CENTER SECTION
(2) 4 SHANK WINGS
(2) 2 SHANK WINGS



46' CENTER SECTION
(2) 4 SHANK WINGS
(2) 3 SHANK WINGS



WING INSTALLATION 24' THROUGH 46' UNDER CUTTERS

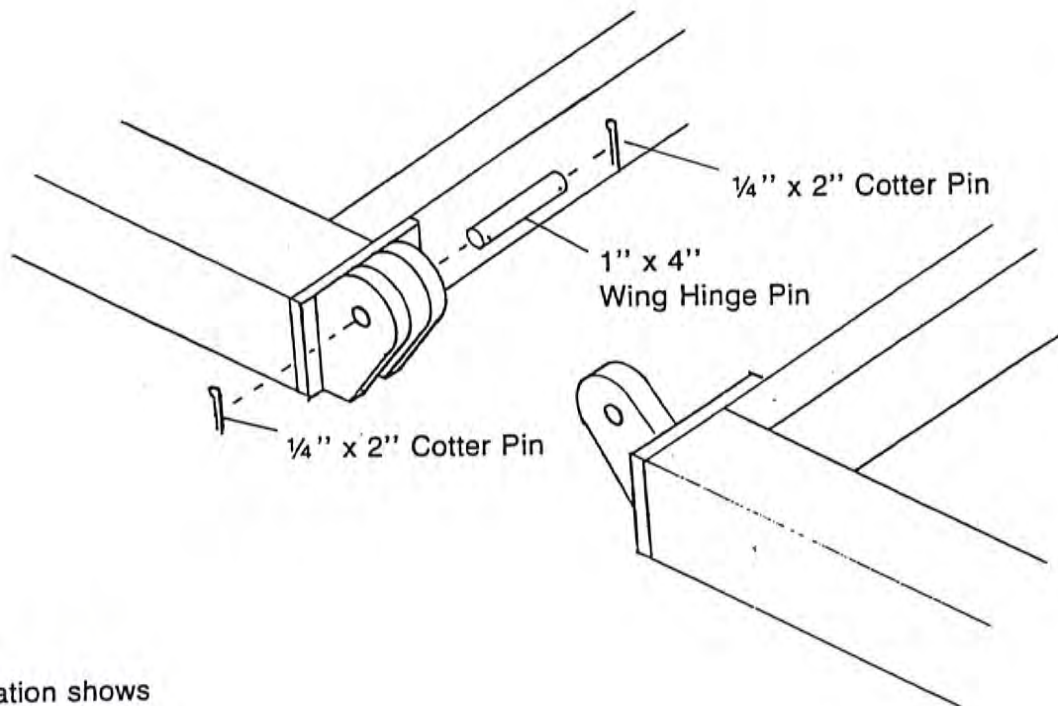
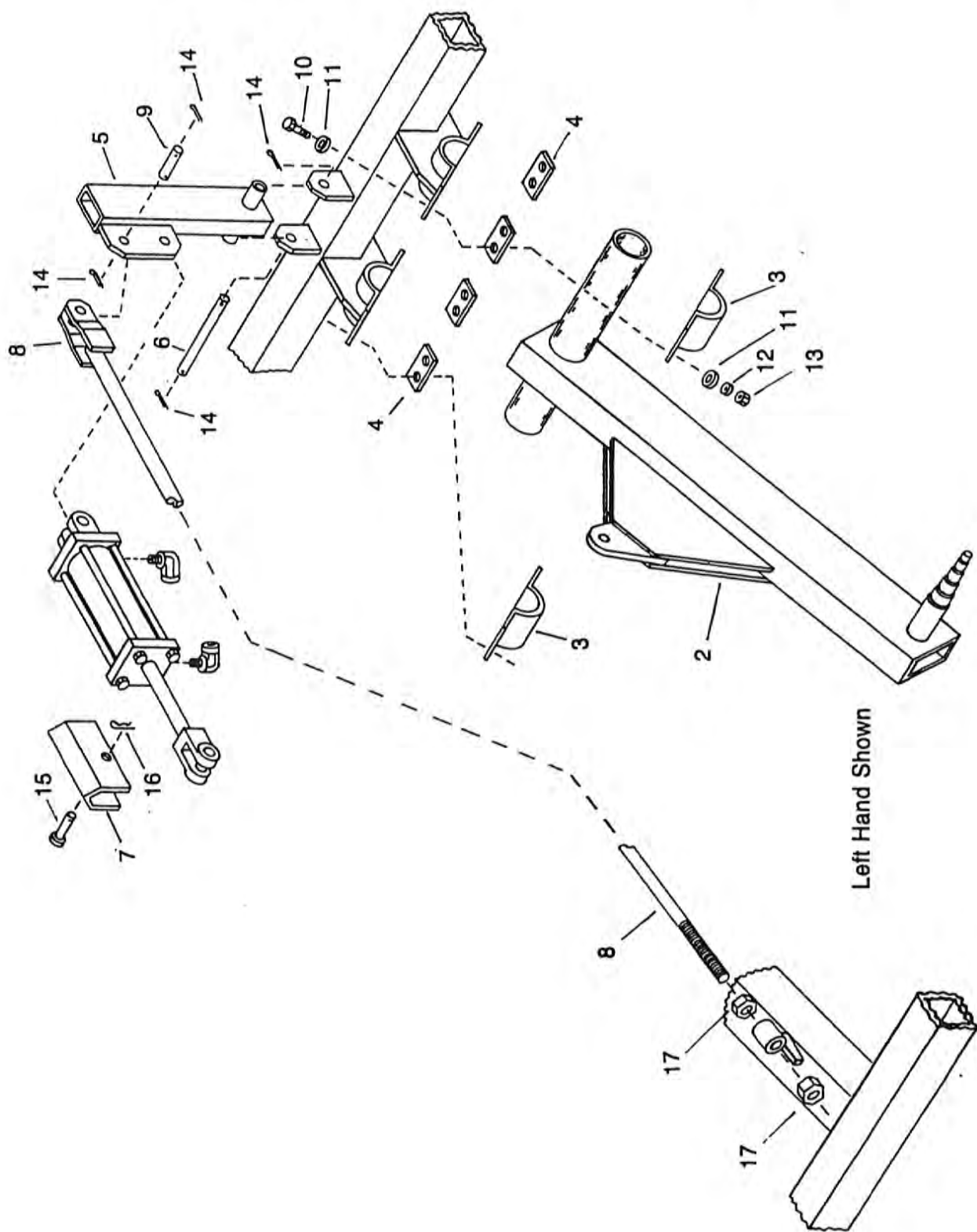


Illustration shows
typical wing hinge

15. Position wing in place, insert pin through hinge, secure with cotter pins.
16. Support end of wing on barrels or stands.

NOTE: On 41' and 46' Under Cutters, install 4 shank wings and wheels, then install the outer wings and wheels.

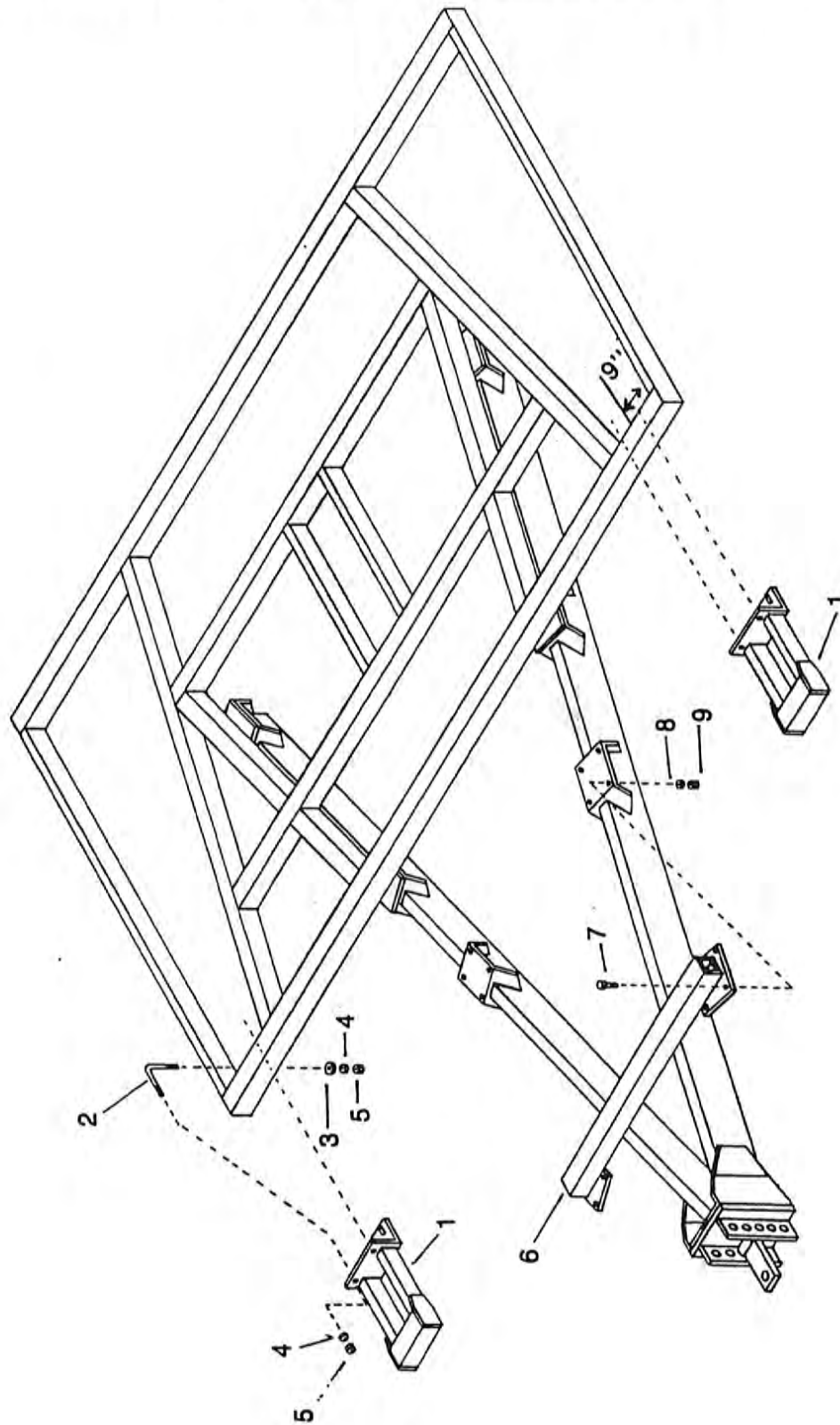
WING WHEEL INSTALLATION 24' THROUGH 46' UNDER CUTTERS



WING WHEEL INSTALLATION 24' THROUGH 46' UNDER CUTTERS

17. Support end of wings on barrels or stands.
18. Grease rock shaft hinge clamp No. 3, and hinge mount on wing.
19. Install rock shaft No. 2, rock shaft hinge clamp No. 3, and shims No. 4, with ½" x 2" bolts No. 10, flat washer No. 11, lock washer No. 12, and nuts No. 13. ***NOTE:** Hinge should be tight without binding rock shaft. (Install shims as needed!)
20. Bolt wheel and tire assembly on hubs with wheel bolts.
21. Install cylinder mount No. 5, on frame with 1" x 8¼" pin No. 6, and ¼" x 2" cotter pins No. 14.
22. Install one 1¼" nut No. 17, on threaded end of linkage rod No. 12. Grease threads liberally before inserting rod through tubing on frame and install remaining 1¼" nuts. Mount clevis end of rod using 1" x 2-7/8" pin No. 9, and two ¼" x 2" cotter pins No. 14. Adjust linkage rod No. 8, so that cylinder mount No. 5, is 90° to the top of the frame.
23. Install slave cylinder (see hydraulic schematics pages 26 to 29, for proper size) between cylinder mount and rock shaft frame. Extend ram fully and fasten cylinder safety stop No. 7, over ram with ¾" x 2½" clevis pin No. 15, and 3/16" hair pin No. 16.
24. Remove support barrels or stands after system has been fully charged in the raised position. **NOTE:** For 41' and 46' Under Cutters, repeat steps 15-24 for outer wings.

**COULTER EXTENSION, HITCH BRACE
15' THROUGH 28' UNDER CUTTER**

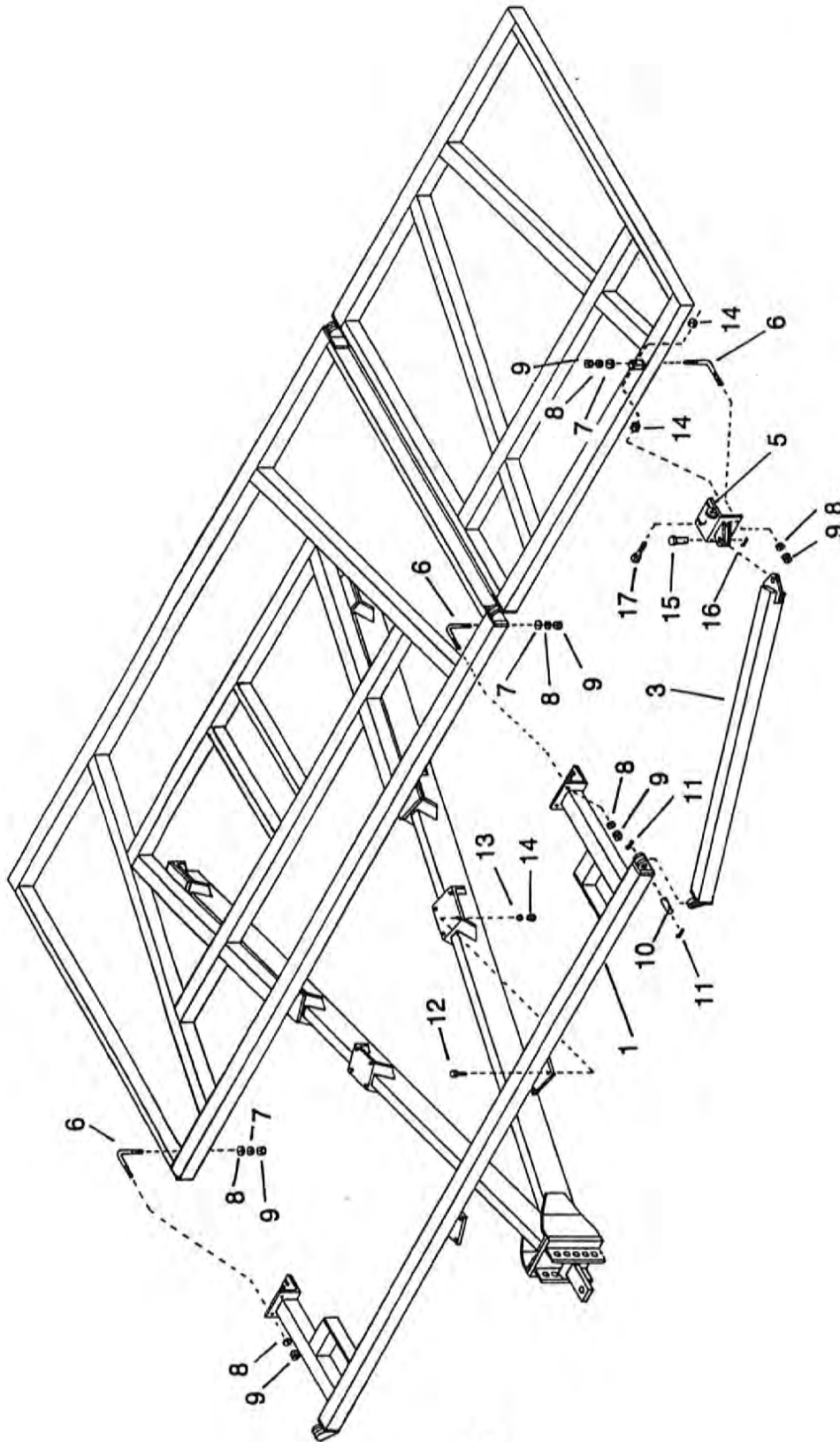


COULTER EXTENSION, HITCH BRACE 15' THROUGH 28' UNDER CUTTER

25. Mount coulters No. 1, on center section using $\frac{3}{4}$ " L-bolt No. 2, flat washer No. 3, lock washers No. 4, nuts No. 5. *NOTE: From the center of the clamp to the inside edge of the frame should measure 9".

26. Bolt hitch brace No. 6, to hitch as shown using $\frac{5}{8}$ " x $1\frac{1}{2}$ " bolts No. 7, lock washers No. 8, and nuts No. 9.

**4 SHANK WING BRACE
33' THROUGH 46' UNDER CUTTER**



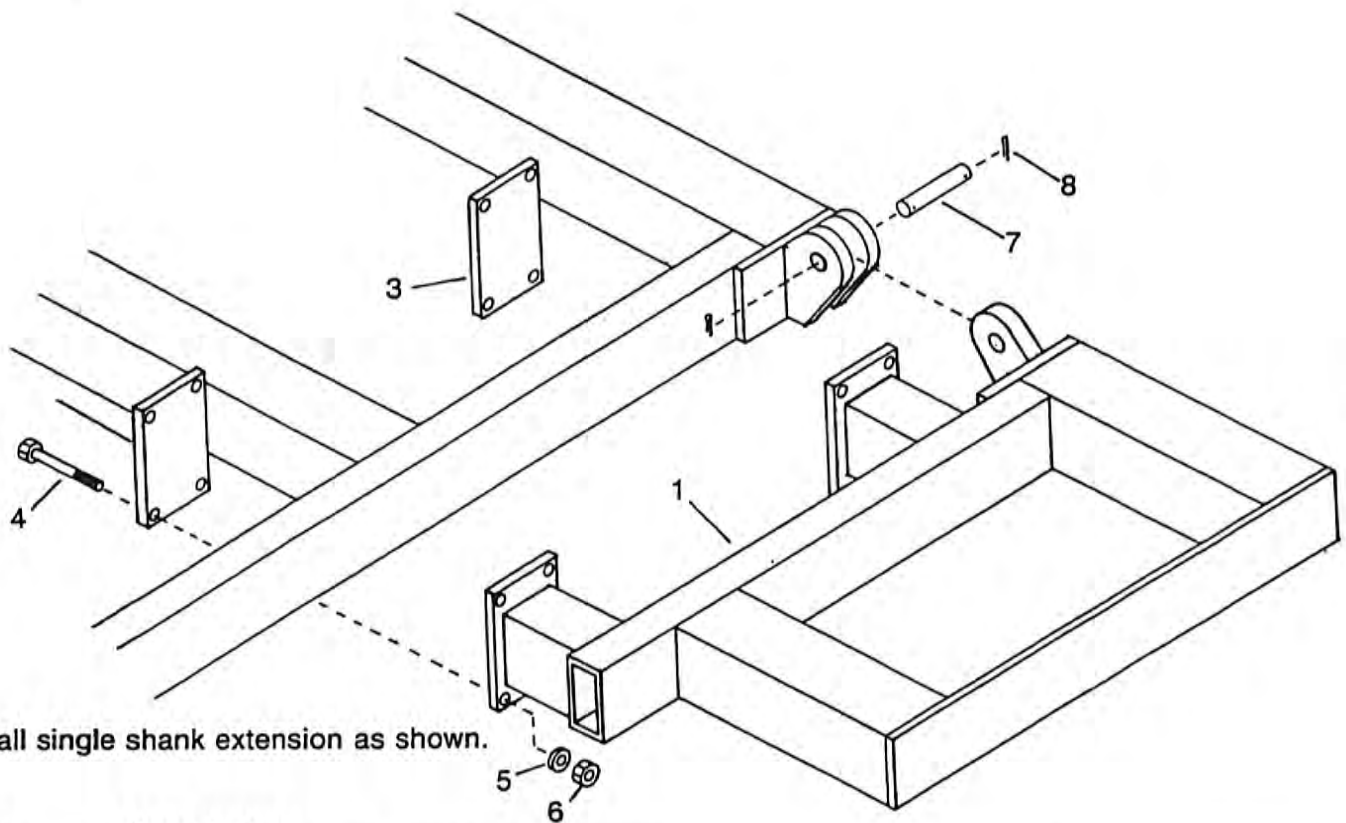
4 SHANK WING BRACE 33' THROUGH 46' UNDER CUTTER

27. Bolt wing brace center section to hitch using 5/8" x 1 1/2" bolts No. 12, lock washers No. 13, and nuts No. 14. Tighten clamps on center section with 3/4" L-bolts No. 6, flat washer No. 7, lock washer No. 8, nuts No. 9.

28. Install wing braces No. 3 (left side shown), on center section with 1" x 4" hinge pin No. 10, and 1/4" x 2" cotter pins No. 11.

29. Pin wing brace mounting clamp No. 5 (left side shown), to wing brace No. 3, using 1" x 3" clevis pin No. 15, and 3/16" x 2" cotter pin No. 16. Hang clamp on front 4 x 4 of wing and install 3/4" L-bolts, flat washers, lock washers and nuts. (**DO NOT TIGHTEN** them at this time.) Install 5/8" x 4" bolts No. 17, and nuts No. 14, as shown. Tighten outer nut removing any slack in brace, then jam inner nut against block on wing. Tighten any remaining bolts at this time.

SINGLE SHANK EXTENSION 20' OR 37' UNDER CUTTER



Item	Description
1	Single shank extension right hand
2	Single shank extension left hand (not shown)
3	Mount plate
4	1/2" x 4" bolts
5	1/2" lock washers
6	1/2" nuts

NOTE: Single shank extensions can be added to the 15' center section to increase its width to 20'. Or they may be added to the 33' model to increase its width to 37'.

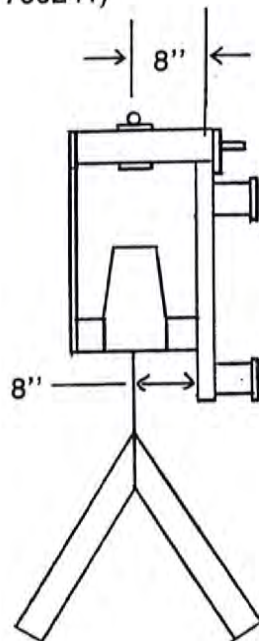
SHANK AND COULTER INSTALLATION

The following pages, 18 through 21, show the measurements for locating shanks and coulters.

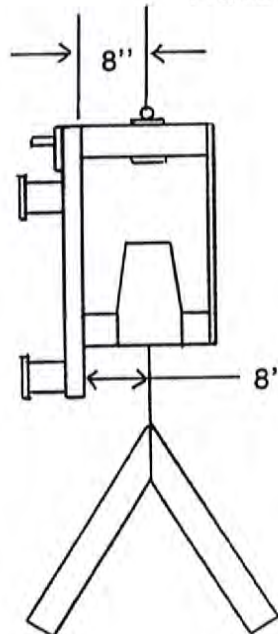
Mount shanks with 2 - $\frac{3}{4}$ " L-bolts, 2 - $\frac{3}{4}$ " flat washers, 4 - $\frac{3}{4}$ " lock nuts, and 4 - $\frac{3}{4}$ " nuts.

Mount coulters using 4 - $\frac{1}{2}$ " x 6" bolts, 4 - $\frac{1}{2}$ " lock washers, and 4 - $\frac{1}{2}$ " nuts.

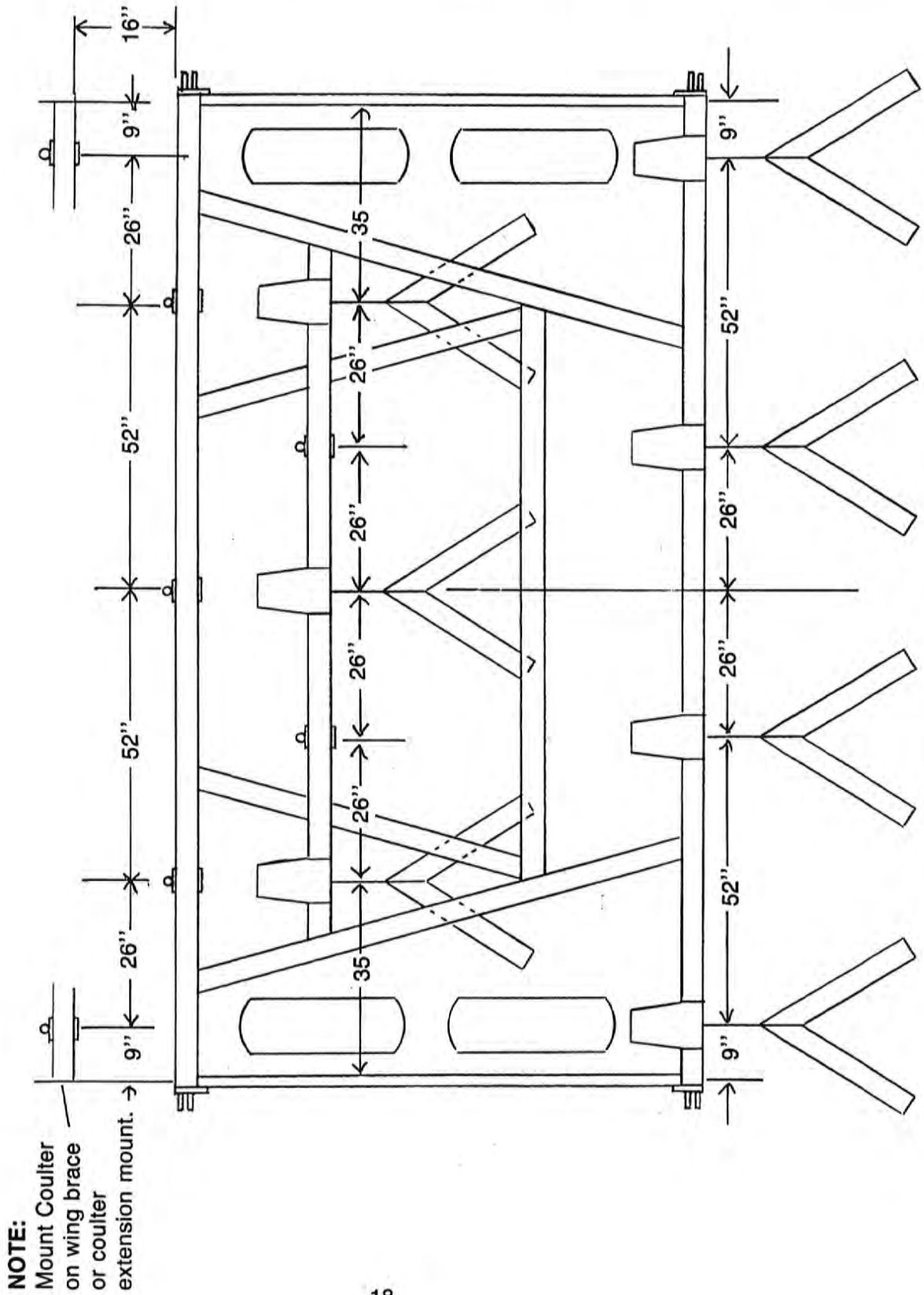
1 Shank Extension Left Hand
Frame Weldment (P.N. 7700241)



Right Hand
Frame Weldment (P.N. 7700240)

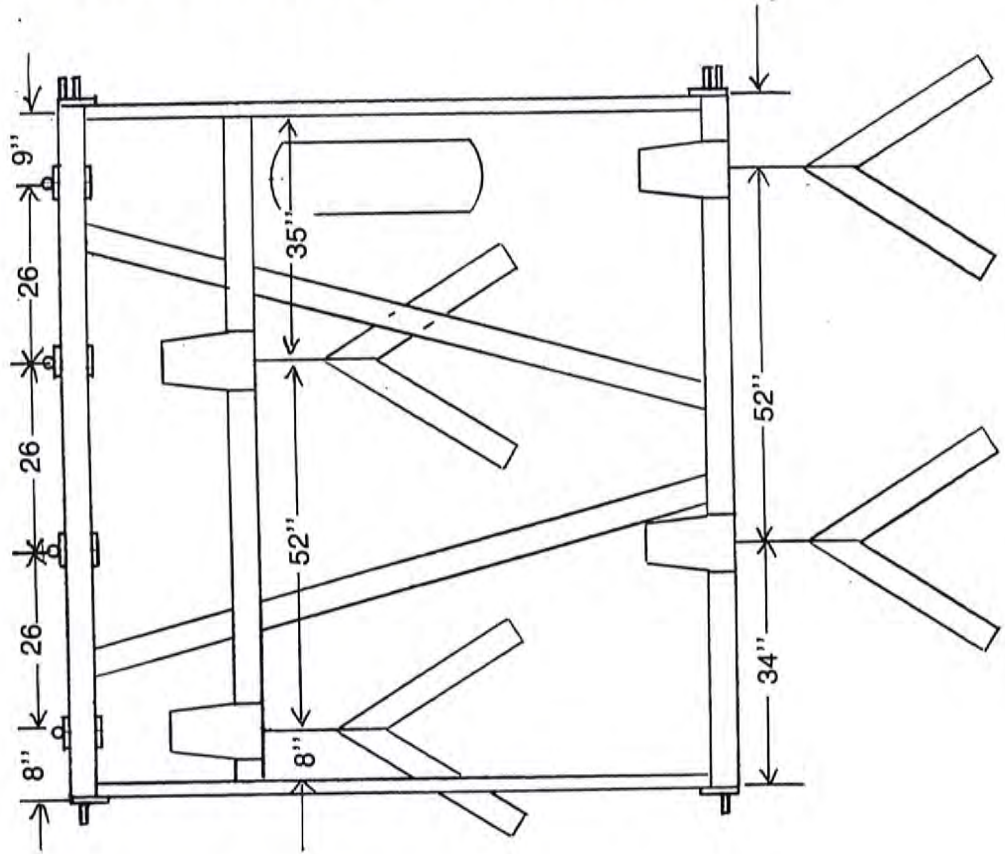


3200 UNDER CUTTER CENTER SECTION FRAME WELDMENT (P.N. 7700200)

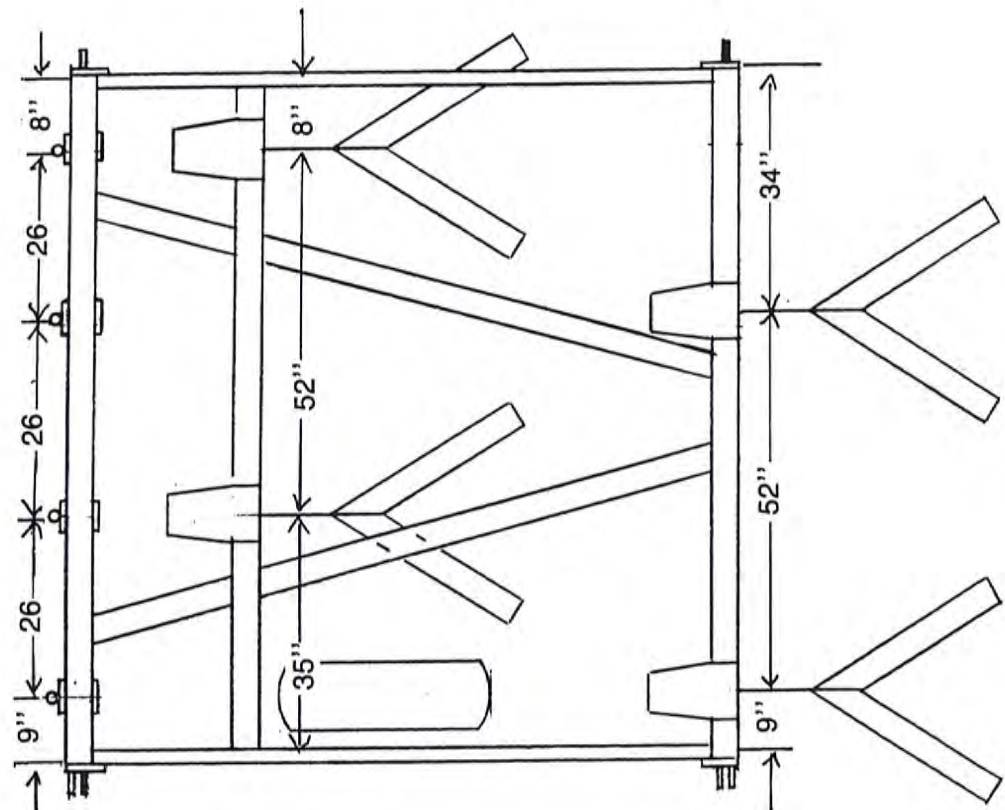


3200 UNDER CUTTER 4 SHANK WING

4 SHANK WING RIGHT HAND
Frame Weldment P.N. 7700255

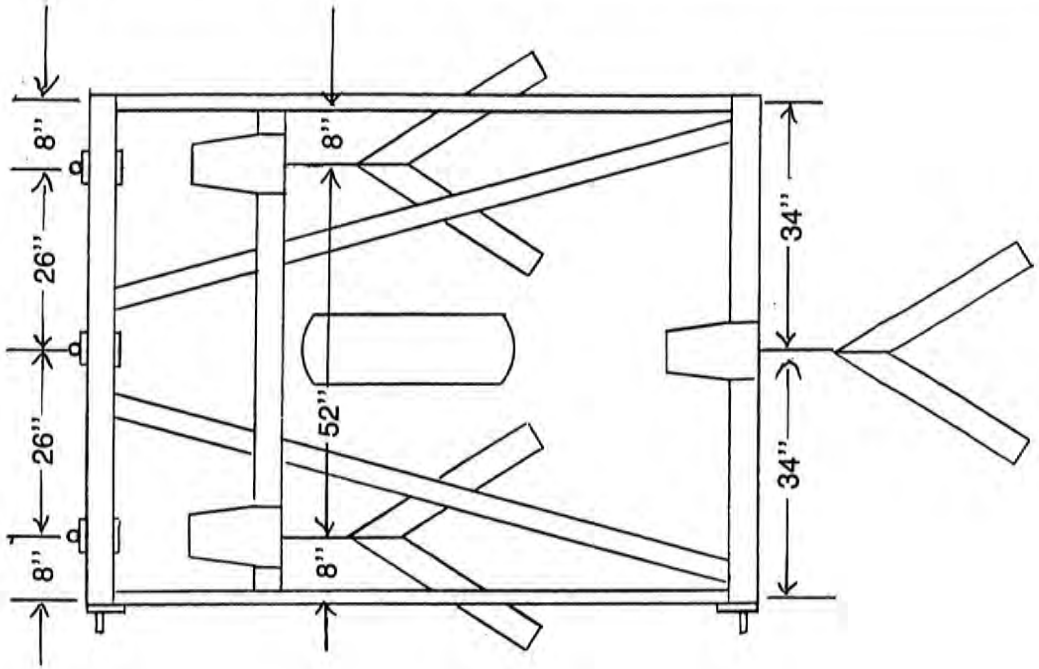


4 SHANK WING LEFT HAND
Frame Weldment P.N. 7700256

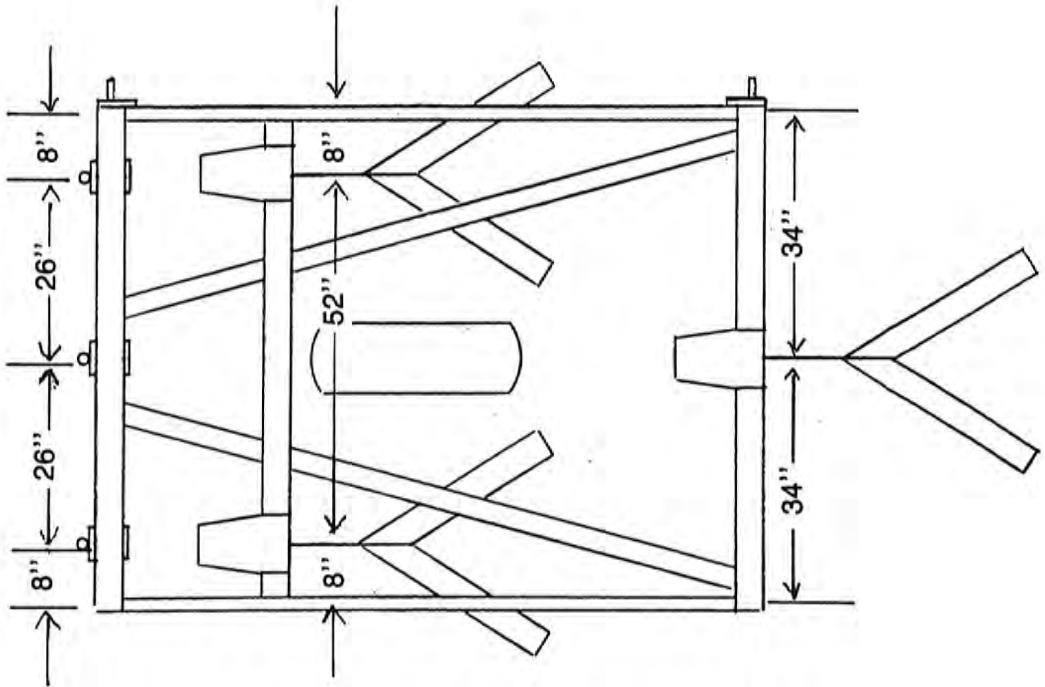


3200 UNDER CUTTER 3 SHANK WING

3 SHANK WING RIGHT HAND
Frame Weldment P.N. 7700257

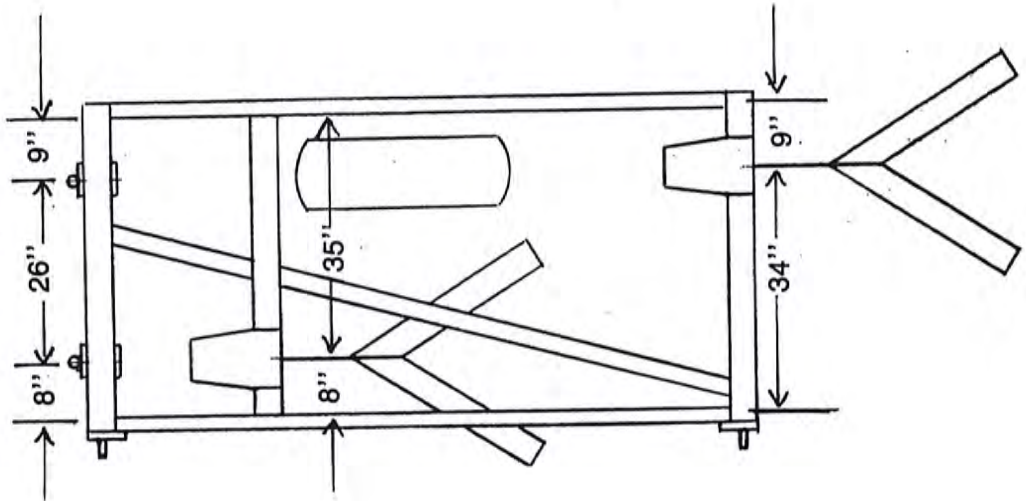


3 SHANK WING LEFT HAND
Frame Weldment P.N. 7700258

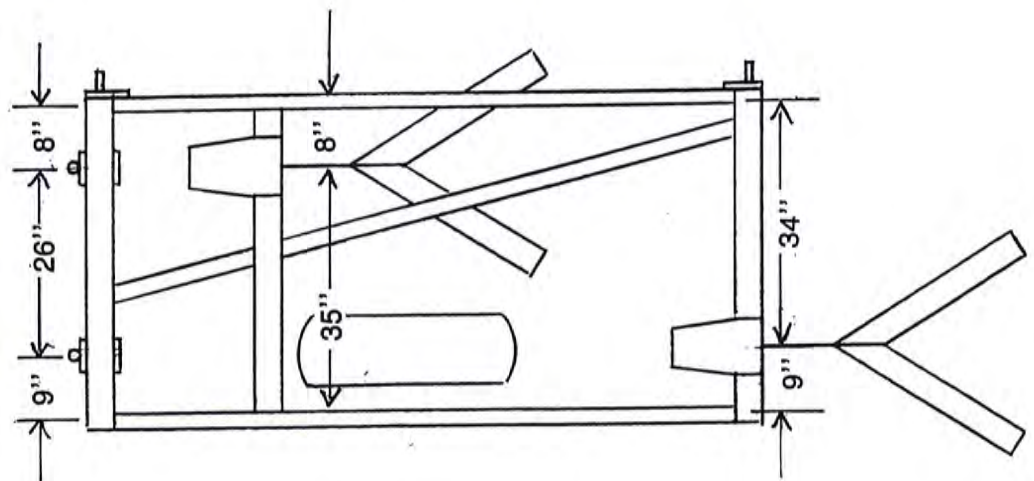


3200 UNDER CUTTER 2 SHANK WING

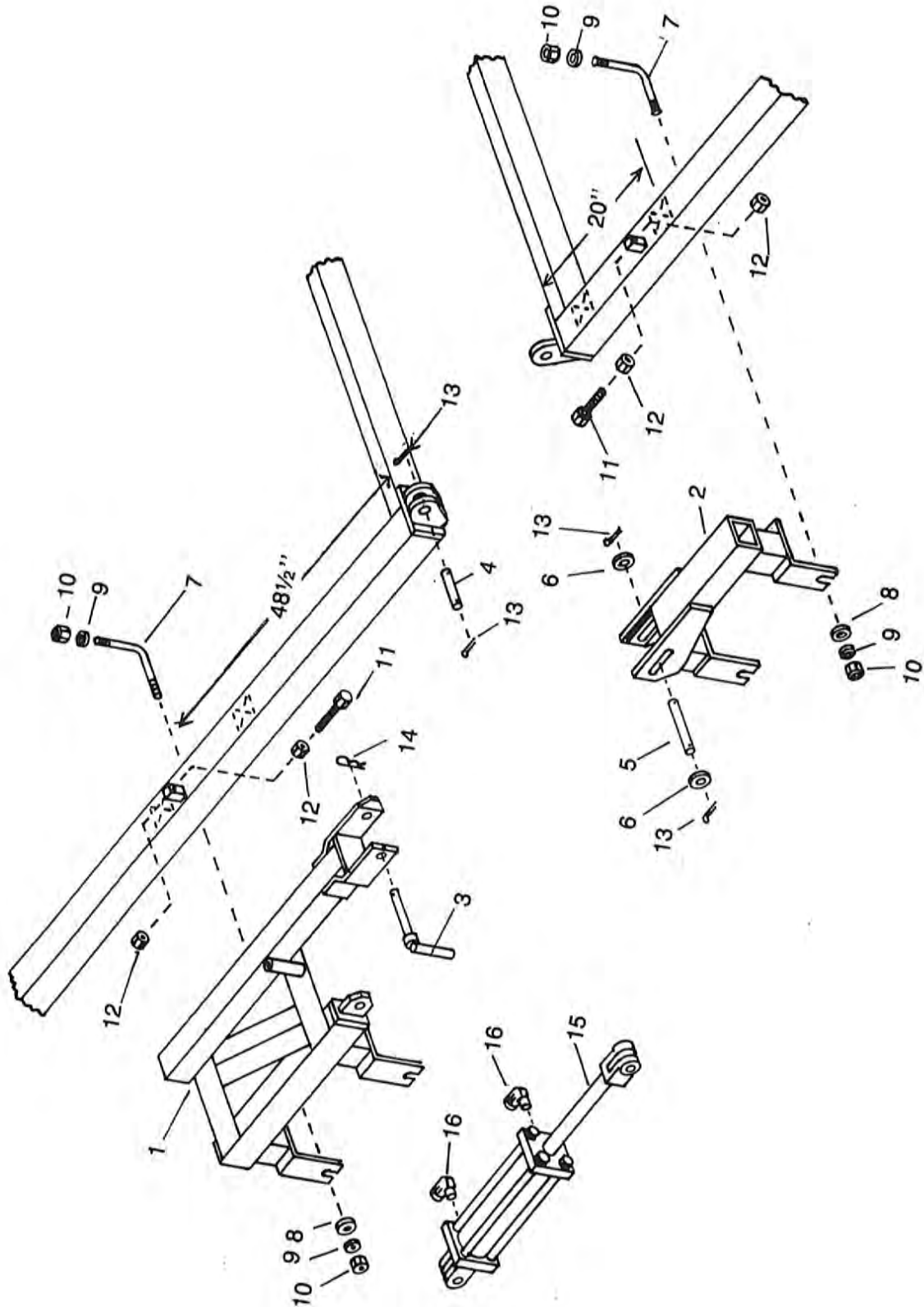
2 SHANK WING RIGHT HAND
Frame Weldment P.N. 7700259



2 SHANK WING LEFT HAND
Frame Weldment P.N. 7700260



2 and 3 SHANK WING FOLDING BRACKETS



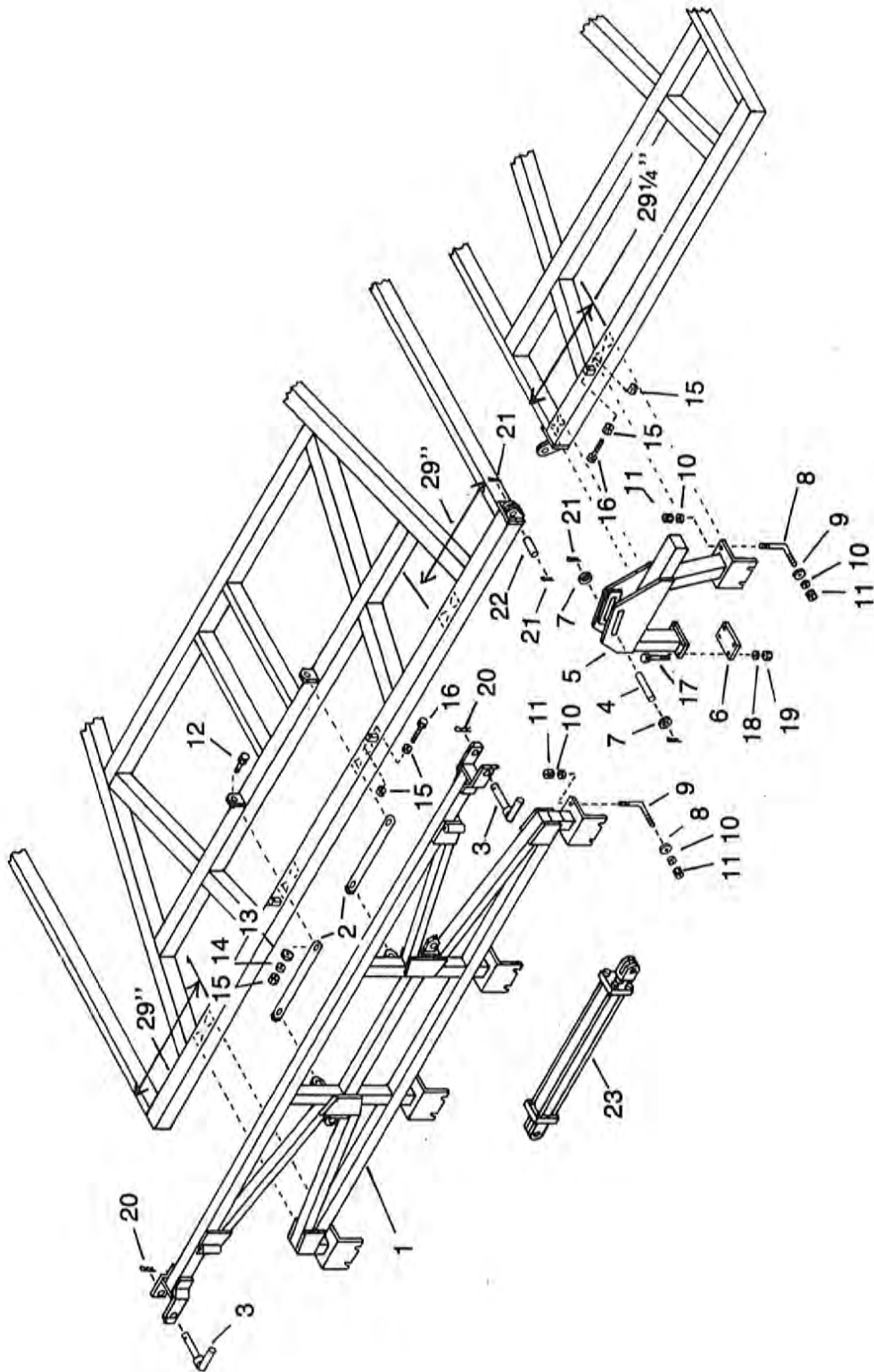
2 and 3 SHANK WING FOLDING BRACKETS

***NOTE:** Fold cylinder mount No. 1 bolts to center section for 24' and 28' Under Cutters, and it bolts on 4 shank wings for 41' and 46' Under Cutters.

30. Install fold cylinder mount No. 1, and wing fold bracket No. 2, as shown with $\frac{3}{4}$ " L-bolt No. 7, flat washers No. 8, lock washers No. 9, and nuts No. 10.
31. Install one $\frac{5}{8}$ " nut No. 12, on each stop bolt No. 11. Insert bolts through blocks on frame and install remaining nuts. Adjust so stop bolt is tight against folding bracket, then tighten nuts against blocks on frame.
32. Mount ram end of $3\frac{1}{2}$ " x 12" cylinder with 1" x $6\frac{1}{2}$ " pin No. 5, 1" flat washers No. 6, and $\frac{1}{4}$ " x 2" cotter pin No. 13. Mount butt end with parts as shown.
33. Store safety pin No. 3, in tubing welded on cylinder mount.

NOTE: Adjust folding brackets so frames are 90° to each other when folded!

4 SHANK WING FOLDING BRACKET



4 SHANK WING FOLDING BRACKET

NOTE: 4 shank wing folding bracket is used on 33' to 46' Under Cutters.

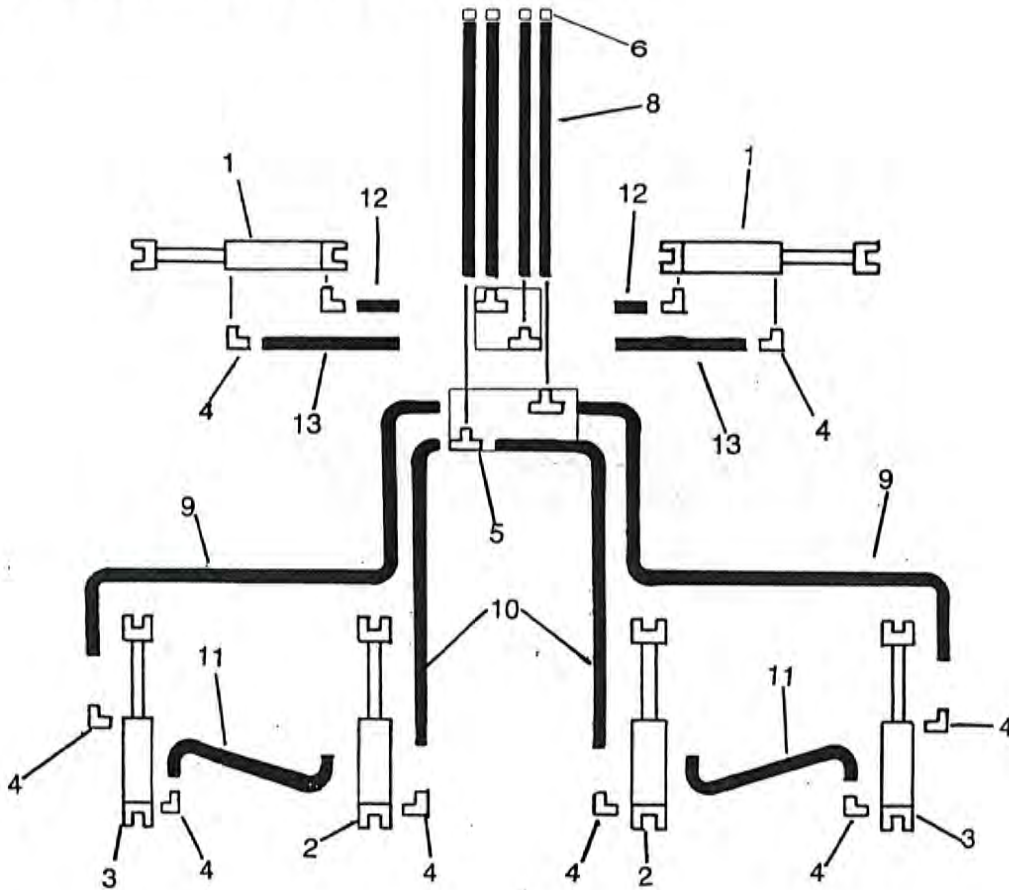
34. Center fold cylinder mount No. 1, on center section. Mount with $\frac{3}{4}$ " L-bolt No. 8, flat washer No. 9, lock washers No. 10, and nuts No. 11.
35. Bolt fold cylinder mount brace No. 2, using $\frac{5}{8}$ " x 2" bolts No. 12, flat washer No. 13, lock washer No. 14, nuts No. 15.
36. Install wing fold bracket No. 5, as shown with $\frac{3}{4}$ " L-bolts No. 8, flat washer No. 9, lock washer No. 10, nut No. 11, and wing fold mount plate No. 6, $\frac{1}{2}$ " x 6" bolts No. 17, lock washer No. 18, and nuts No. 19.
37. Install one $\frac{5}{8}$ " nut No. 15, on each stop bolt No. 16. Insert bolts through blocks on frame and install remaining nuts. Adjust so stop bolt is tight against folding bracket, then tighten nuts against blocks on frame.
38. Mount butt end of 4" x 36" cylinder with parts as shown. Mount ram end with 1" x $6\frac{1}{2}$ " pin No. 4, 1" flat washer No. 7, and $\frac{1}{4}$ " x 2" cotter pin No. 21.
39. Store safety pin No. 3, in tubing welded on cylinder mount.

NOTE: Adjust folding brackets so frames are 90° to each other when folded!





33 FT. AND 37 FT. UNDERCUTTER HYDRAULICS



ITEM	PART NO.	QTY.	DESCRIPTION
1	4100275	2	CYL\HYD\4 X 36\1-3/4 RD
2	4100277	2	CYL\HYD\4X8\BYPASS\>
3	4100276	2	CYL\HYD\3-3/4X8\BYPASS
4	3800537	10	FTG\3/4MORX3/4MJIC\90
5	3800428	2	MNFLD\3/4FOR\DBL;TEE\BLK
6	3800694	4	FTG\3/4FOR\QUICK\CPLR
7			
8	3700814	4	HOSE\HYD\1/2X180\3/4MORSX3/4MORS
9	3700815	2	HOSE\HYD\1/2X236\3/4MORSX3/4FJIC
10	3700816	2	HOSE\HYD\1/2X126\3/4MORSX3/4FJIC
11	3700817	2	HOSE\HYD\1/2X114\3/4MORSX3/4FJIC
12	3700818	2	HOSE\HYD\3/8X30\3/4MORSX3/4FJIC
13	3700819	2	HOSE\HYD\3/8X66\3/4MORSX3/4FJIC



GENERAL INFORMATION

Ground speed depends on the purpose of the operation. Five to 5½ mph at 2½" average depth results in the best weed kill and the least residue covering in fallow. Very rocky conditions may require a slower ground speed to allow sweep penetration.

The 20' Under Cutter traveling 5 mph, will cover 12 acres in one hour. The 33' machine at 5 mph, will cover 20 acres in one hour.

Diagonal cutting on the first operation, instead of cutting with the rows will keep the field smoother and make the previous cut easier to see.

In heavy residue on the first operation, the coulters may be adjusted down another inch to insure cutting.

COULTER AXLE ADJUSTMENT

Coulter bearings should not have any side movement. If necessary, remove the 1" axle nut and install a 1" flat washer behind the nut.

Sweeps should be in good condition for the first operation. In second or third cuts worn sweeps will cause less soil disturbance and bury less residue.

When entering or leaving the cut, throttling down some will expose less top soil.

Sweeps should be cleaned well after use as rust build-up under any remaining soil is difficult to remove.

With the large machines, 28' to 46', transport from field to roadside with the wings down whenever possible.

Sweep bolts (6 per sweep) are No. 3 plow bolts. Correct over-all length is 1-1/8". If unavailable, 1¼" will work.

If it becomes necessary to cut in wet conditions, the pitch of the sweeps may be increased.

Standard hitch block is a single bar cat hitch.

An anhydrous application tube passes through the hollow shank and fastens to the sweep bolts. This applies anhydrous on 13" centers.

A telescoping, bolt on, trailer hitch is also available.

FIELD ADJUSTMENT

When hooking hose to tractor to charge hydraulic system, depth cylinders should be fully extended. This will synchronize all cylinders for proper depth when leveling machine.

HITCH HEIGHT **See Page 34**

Frame of Under Cutter must run level front to rear with the ground. Install depth stop rings to operate sweeps at correct depth. Rings are $\frac{3}{4}$ " x 1" x $1\frac{1}{4}$ " and $1\frac{1}{2}$ " wide. Since depth is controlled by sets of phasing cylinders, depth rings are only required on the two (2) center section cylinders. Depth rings on each cylinder must be of equal width. Adjust hitch block up or down until A. and B., are nearly equal. Hitch block may be turned over for finer adjustment.

LEVEL FRAME **See Page 34**

On level ground, frame should run level across the top. To check level, stop machine at sweeping depth. Measure at point C. If adjustment is necessary lift sweeps out of the ground, pull ahead and drop sweeps down to ground level. Adjust $1\frac{1}{4}$ " nut on linkage rod, up or down as needed. Pitch adjustment of sweeps and condition of sweeps (some new, some old) will have an effect on frame leveling.

COULTER ADJUSTMENT **See Page 37**

Coulter should track on shank center line. To adjust sideways, loosen clamp bolts and reposition. Adjust coulter depth to 1" below sweep cutting depth. Lift frame clear of the ground, measure from top side of 4" square beam down to the bottom of the coulter blade. This measurement should be $29\frac{7}{8}$ " to operate at cutting depth slightly below sweeps. Readjust depth ring up or down as needed. With coulter blade clear of the ground, spring preset should be no less than $8\frac{1}{2}$ ".

SHANK TRIP SPRINGS **See Page 36**

With shank fully down, measure the spring as shown. In most soil conditions and fallow, preset can be 13½". Spring may be tightened to 14" if required. If deep sweeping is done, and shank does not reset, stop forward movement, raise frame some with lift cylinders and trip will reset.

SWEEP PITCH **See Page 36**

Sweeps that are running nearly level front to back will pull easier, wear more even along the edge and cause less soil disturbance. In hard, dry soil, or as sweeps wear, it is necessary to adjust the point of sweep down lower than the wing tips. Up to 1¼" difference may be required. Lift sweeps clear of ground. Hook measuring tape under point, and measure to top of frame. Do the same at the wing tips.

To adjust, remove pin from lower clevis. Turning adjustment in one (1) complete turn increases pitch approximately ¼".

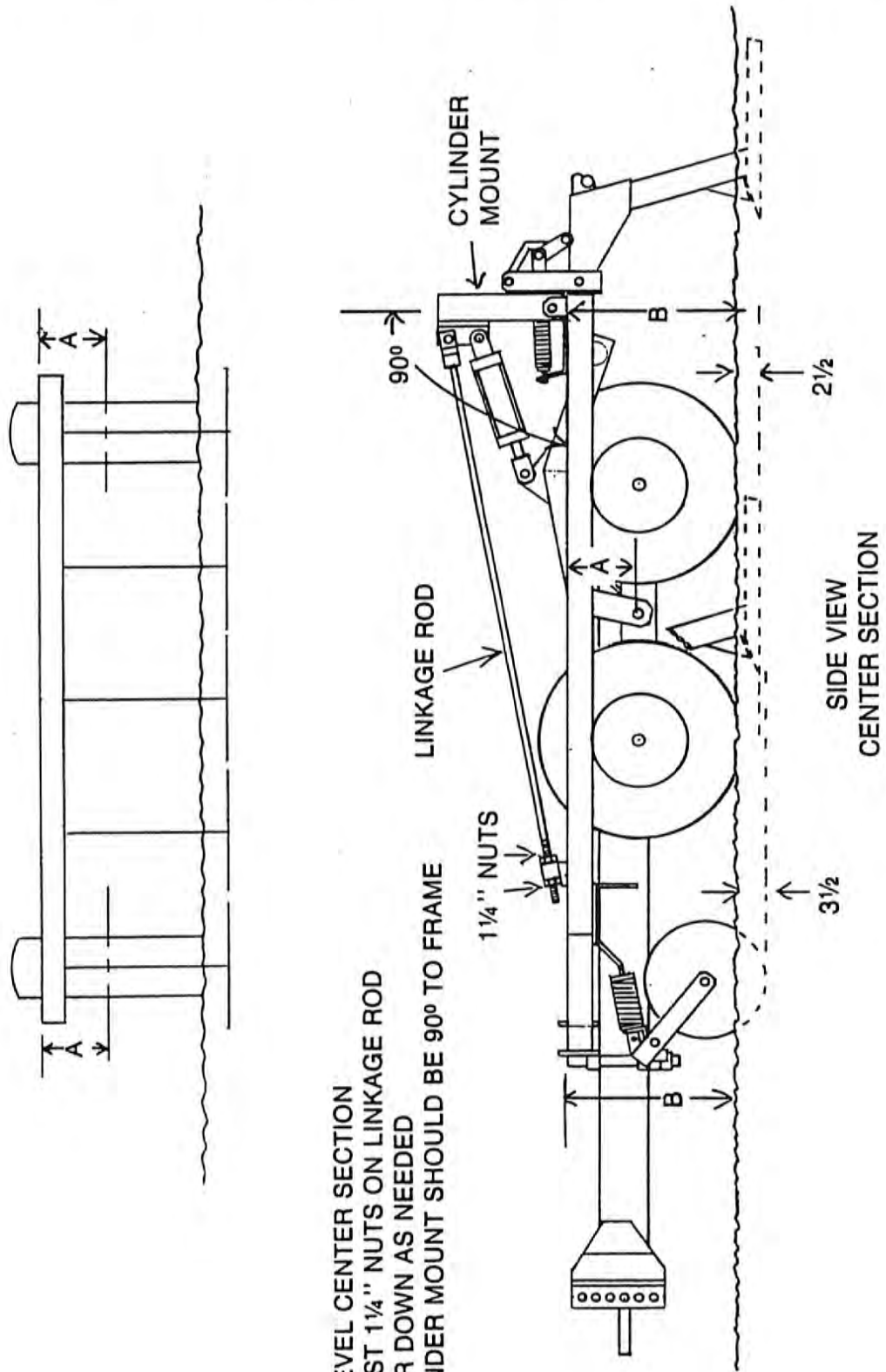
MAINTENANCE AND LUBRICATION

All rock shaft pivot points should be greased daily. If clamps are removed, replace with grade 5 bolts only. Coulter bearings are tapered roller. Adjust end travel by tightening nut on coulter axle. See page 37. Spring loaded coulters have one lube point on hinge pin; lubricate daily.

Reset shank trips have seven lube points. Lubricate daily in conditions where excessive tripping occurs.

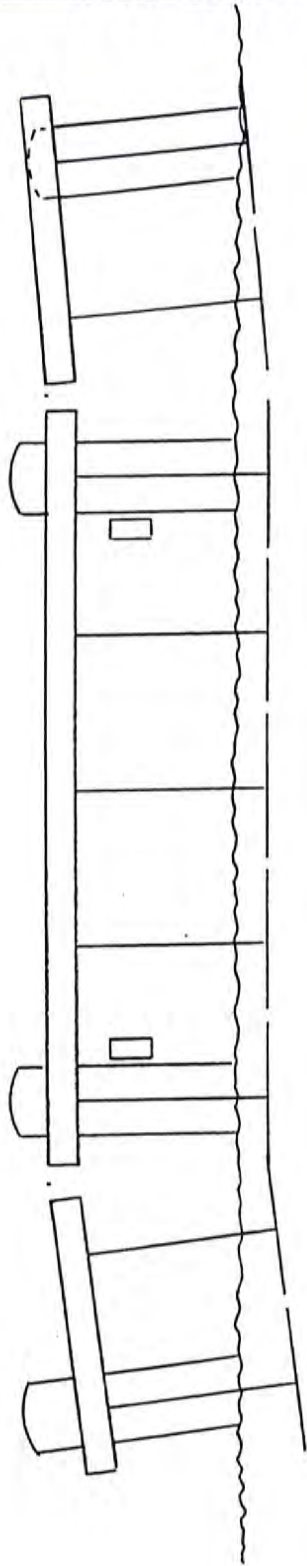
All clamp bolts must be tight to prevent misalignment of parts.

REAR VIEW CENTER SECTION RUNNING LEVEL

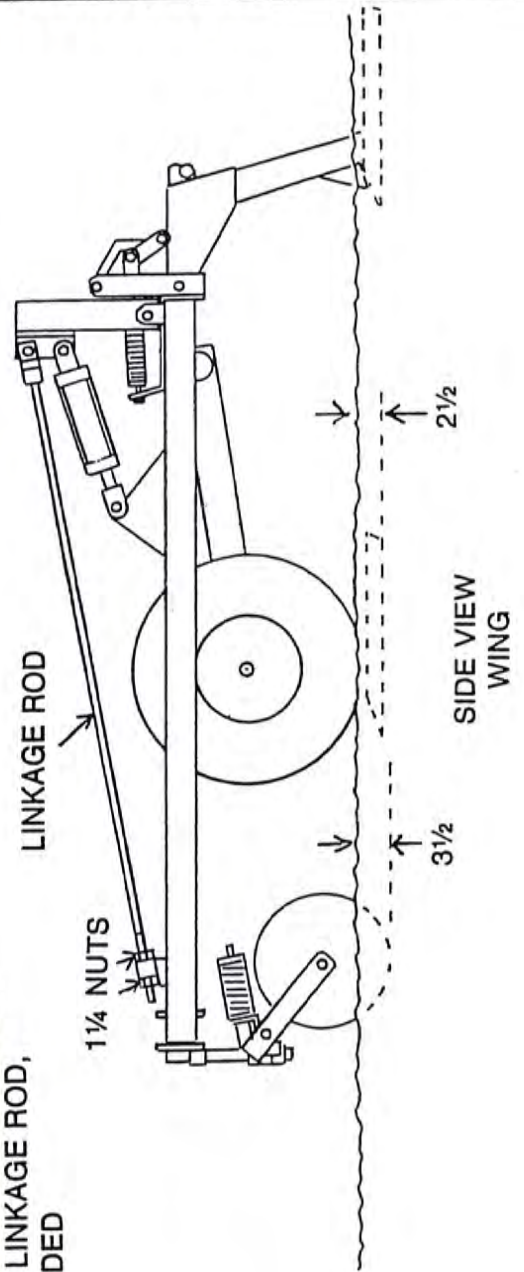


TO LEVEL CENTER SECTION
 ADJUST 1 1/4" NUTS ON LINKAGE ROD
 UP OR DOWN AS NEEDED
 CYLINDER MOUNT SHOULD BE 90° TO FRAME

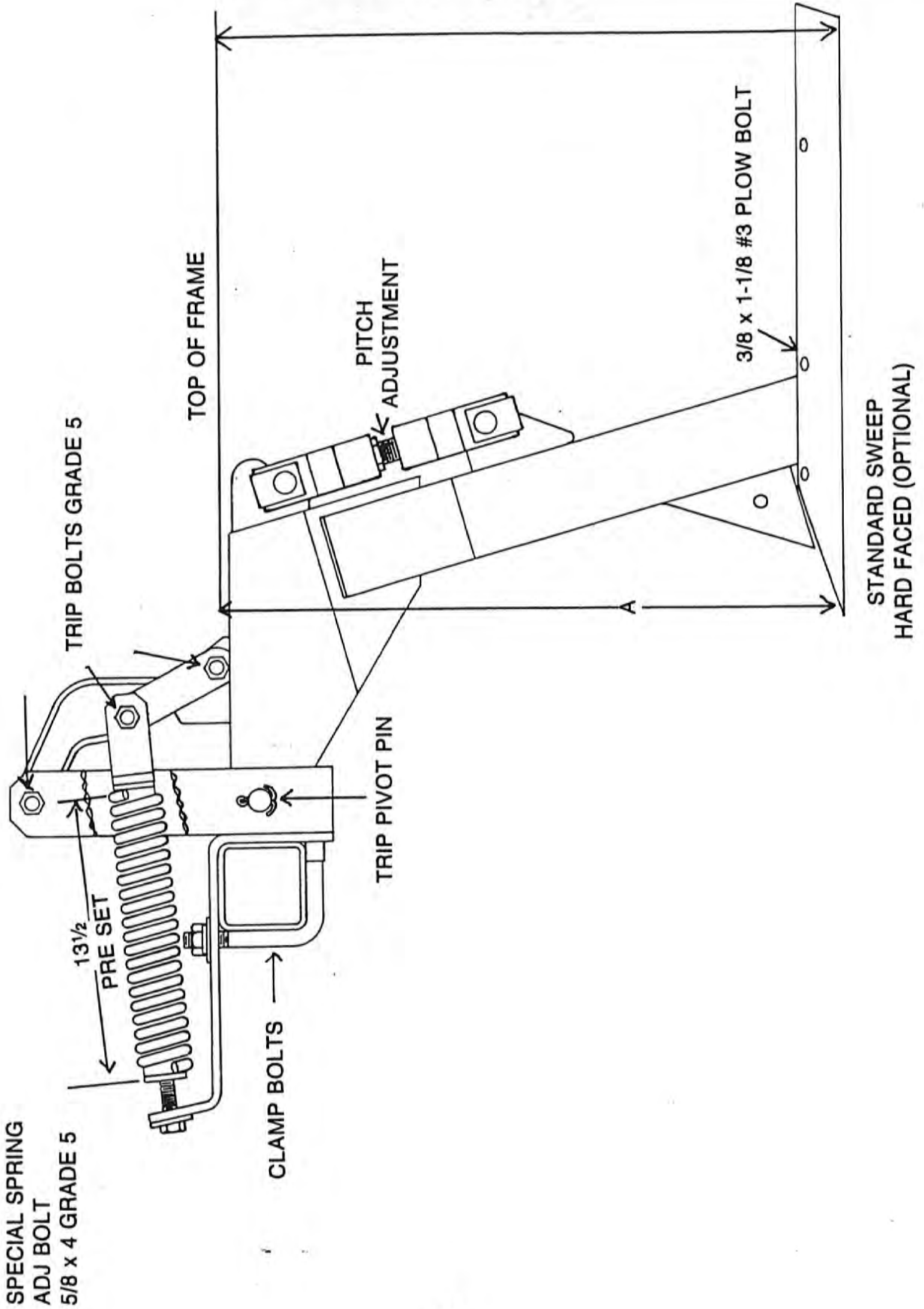
REAR VIEW 20' UNDER CUTTER WINGS NOT RUNNING LEVEL



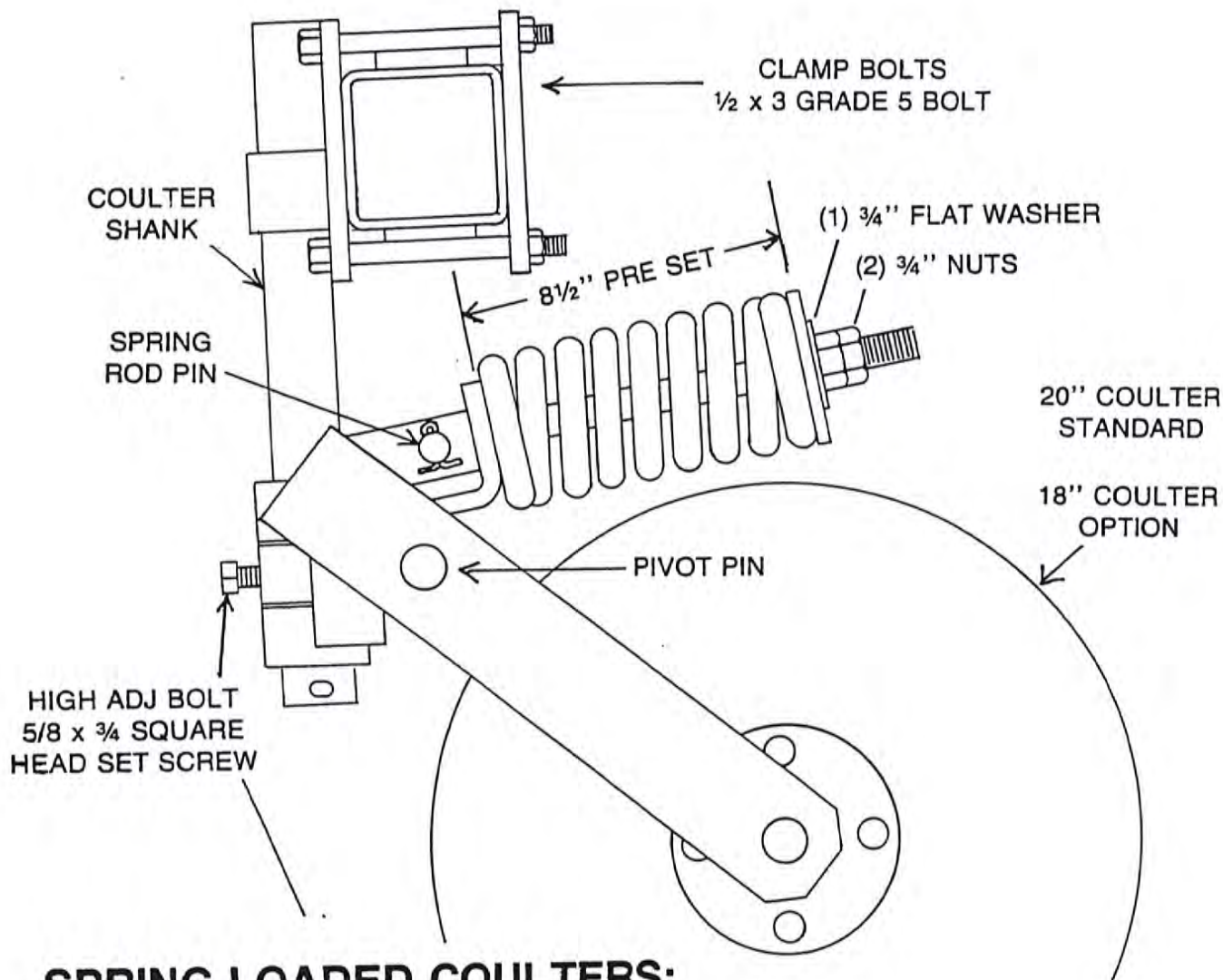
TO LEVEL WINGS WITH CENTER SECTION
ADJUST 1/4" NUT ON LINKAGE ROD,
UP OR DOWN AS NEEDED



RESET SHANK



RESET COULTER



SPRING LOADED COULTERS:

When loose trash is buried beneath the soil surface such as in soft tilled soil, coulters blades need to cut deeper than the sweep point to prevent trash from hanging around sweep. When trash is laying on top of more solid soil, coulters blades can run shallower. Coulters shanks will allow for these adjustments.

Coulters spring tension is adjusted at factory.

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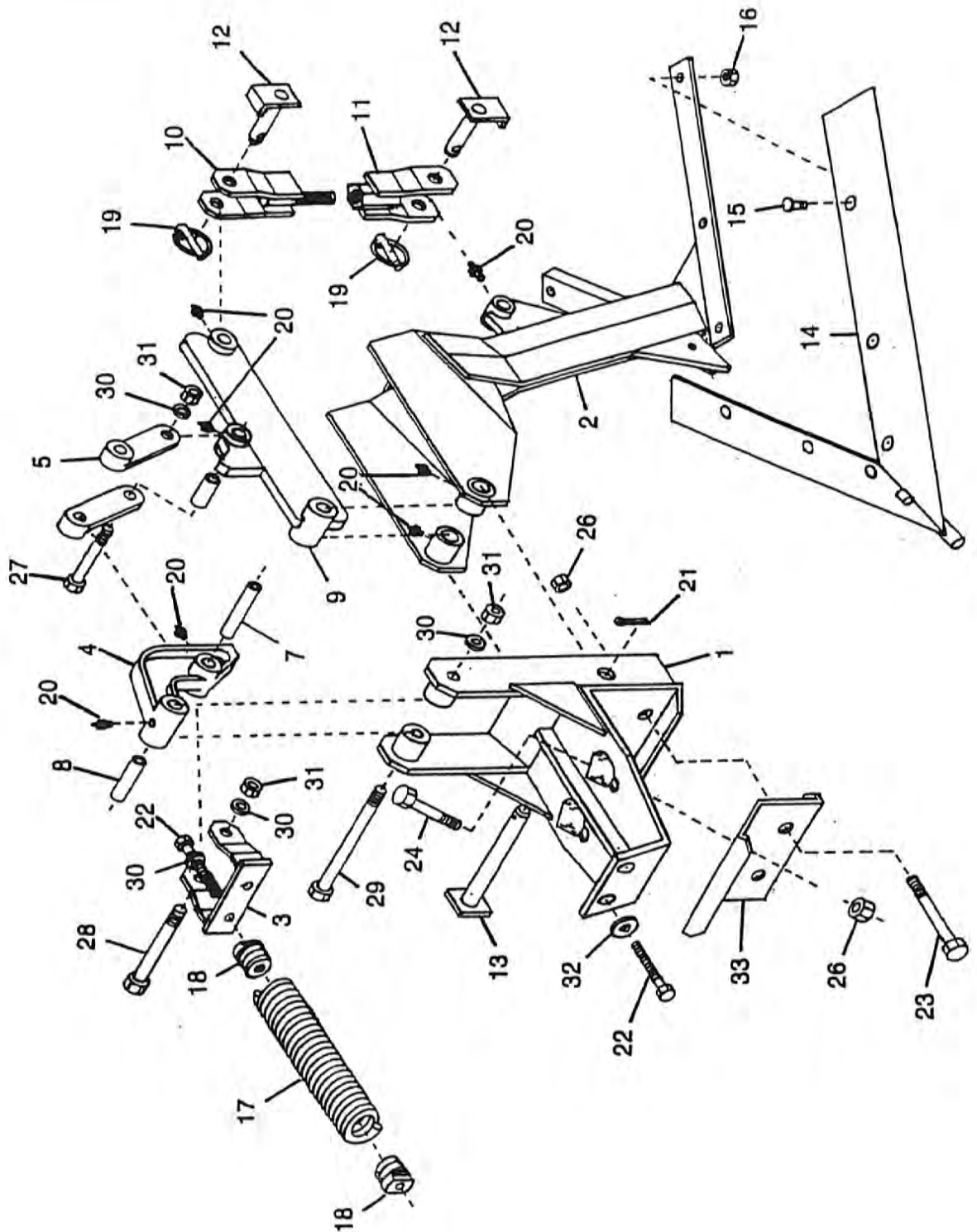
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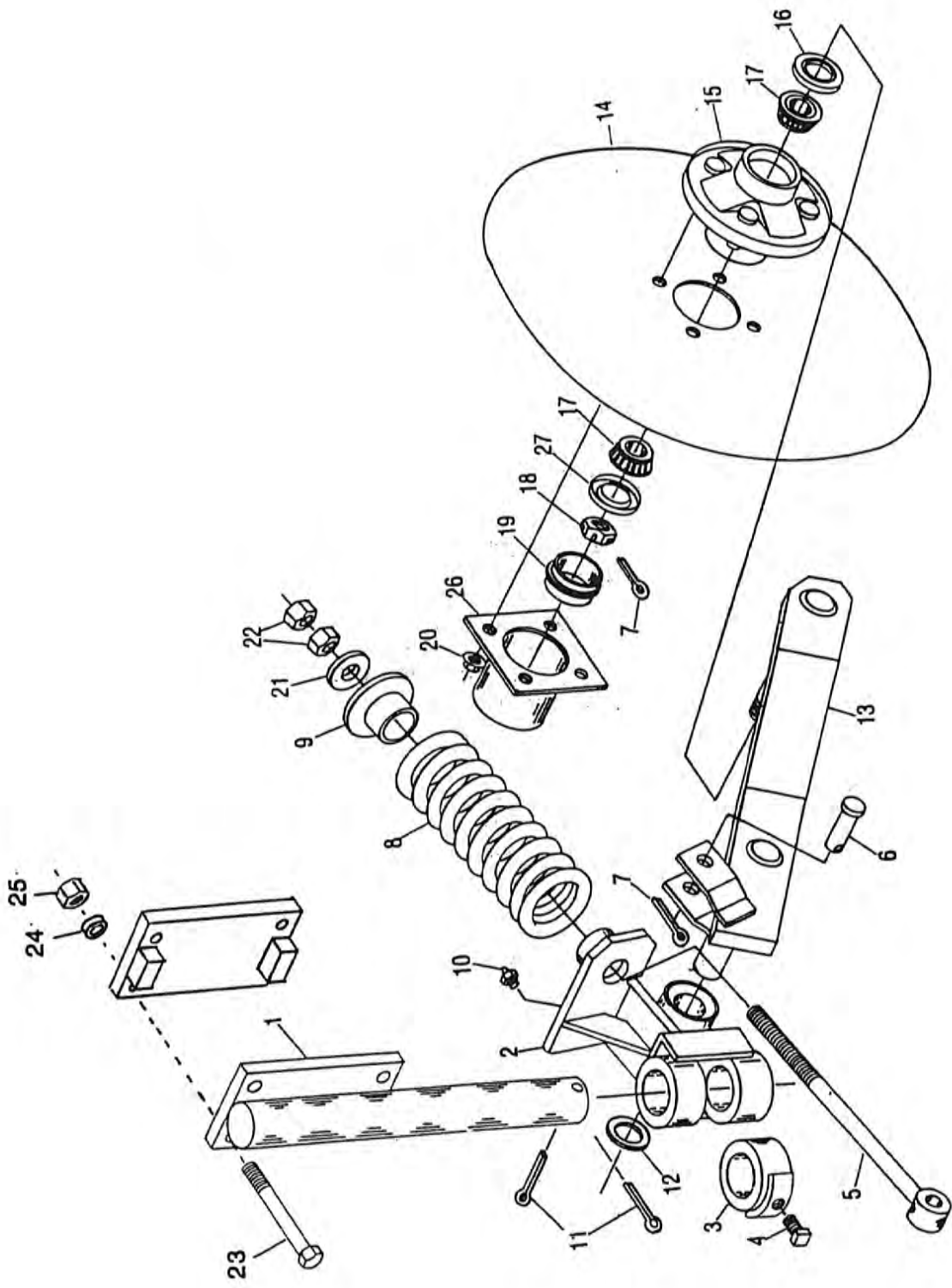
SHANK



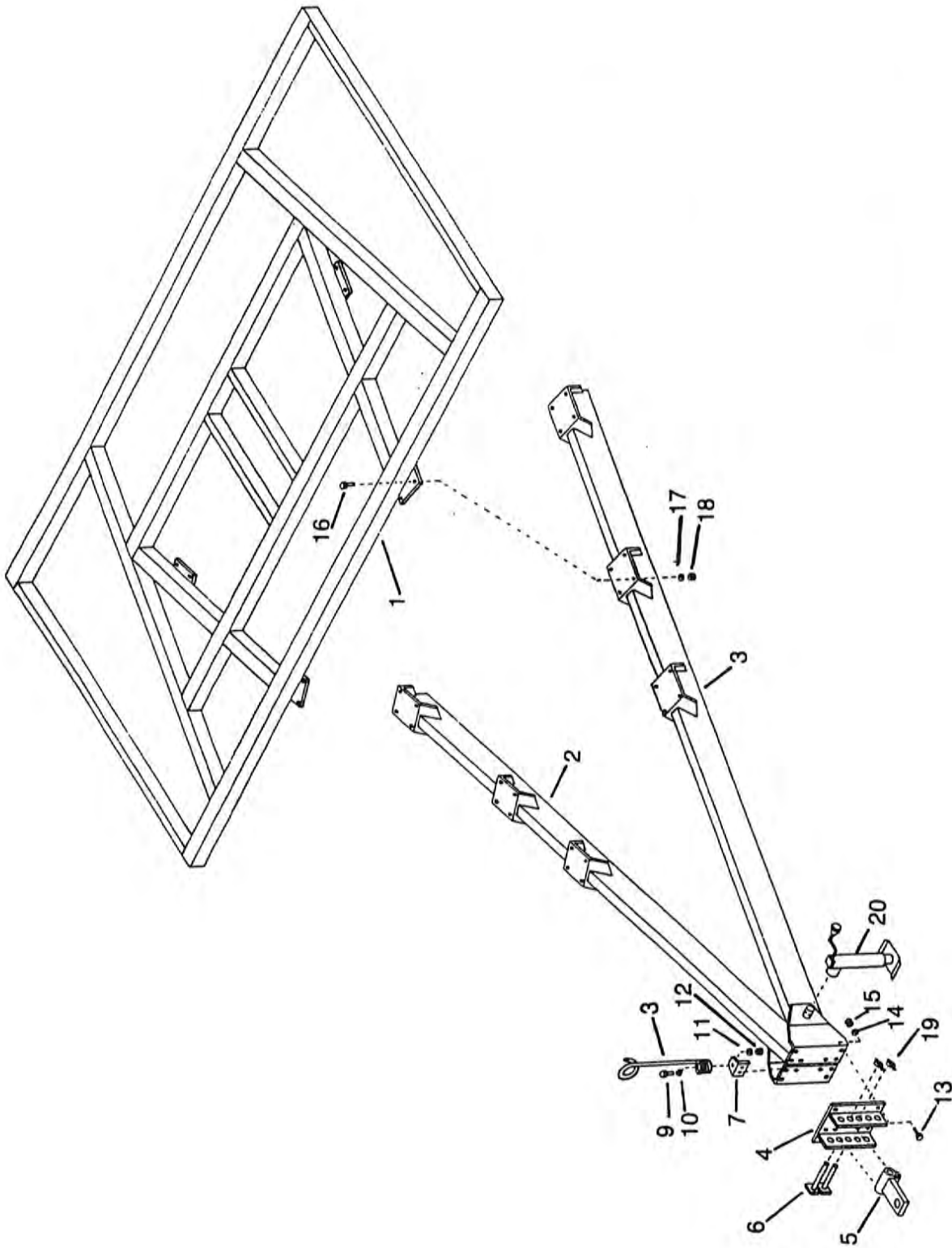
SHANK

Item	Part No.	Qty.	Description
1	7700244	1	Shank Clamp
2	7700245	1	Shank and Frog
3	7700246	1	Spring Yoke
4	7500205	1	Trip Arm No. 20
5	7500204	2	Trip Link No. 19
6	8300394	1	Bushing 1" O.D. x 7 GA 2" Long
7	7700248	1	Bushing 1" O.D. x 7 GA 3-1/8" Long
8	8300396	1	Bushing 1" O.D. x 7 GA 4" Long
9	7700250	1	Shank Bar
10	7700251	1	Pitch Adjust Male End
11	7700252	1	Pitch Adjust Female End
12	7700253	2	Pitch Adjust Pin
13	7700254	1	Shank Hinge Pin
14	7500022	1	Sweep Standard
	7500026	1	Sweep Hard Faced
15	4800073	6	3/8 x 1-1/8 No. 3 Plow Bolt
16	4900002	6	3/8 Nut
17	6100038	2	.500 Spring x 1 1/2" I.D. x 12 1/2" Long
18	7500113	4	Screw Plug
19	4800076	2	5/16 Kwik Pin
20	3800082	7	1/4" Straight Zerk
21	4800177	1	1/4 x 1 3/4 Cotter Key
22	4800176	2	5/8 x 4 Grade 5 Bolt (Special)
23	4800248	2	3/4 x 6 Bolt
24	4800063	2	3/4 x 4 Bolt
25			
26	4900139	4	3/4 Toplock Nut
27	4800100	1	5/8 x 4 Bolt
28	4800218	1	5/8 x 5 1/2 Bolt
29	4800236	1	5/8 x 8 Bolt
30	5000003	5	5/8 Lock Washer
31	4900005	3	5/8 Nut
32	5000002	2	5/8 Flat Washer
33	7700262	1	Shank Clamp Plate

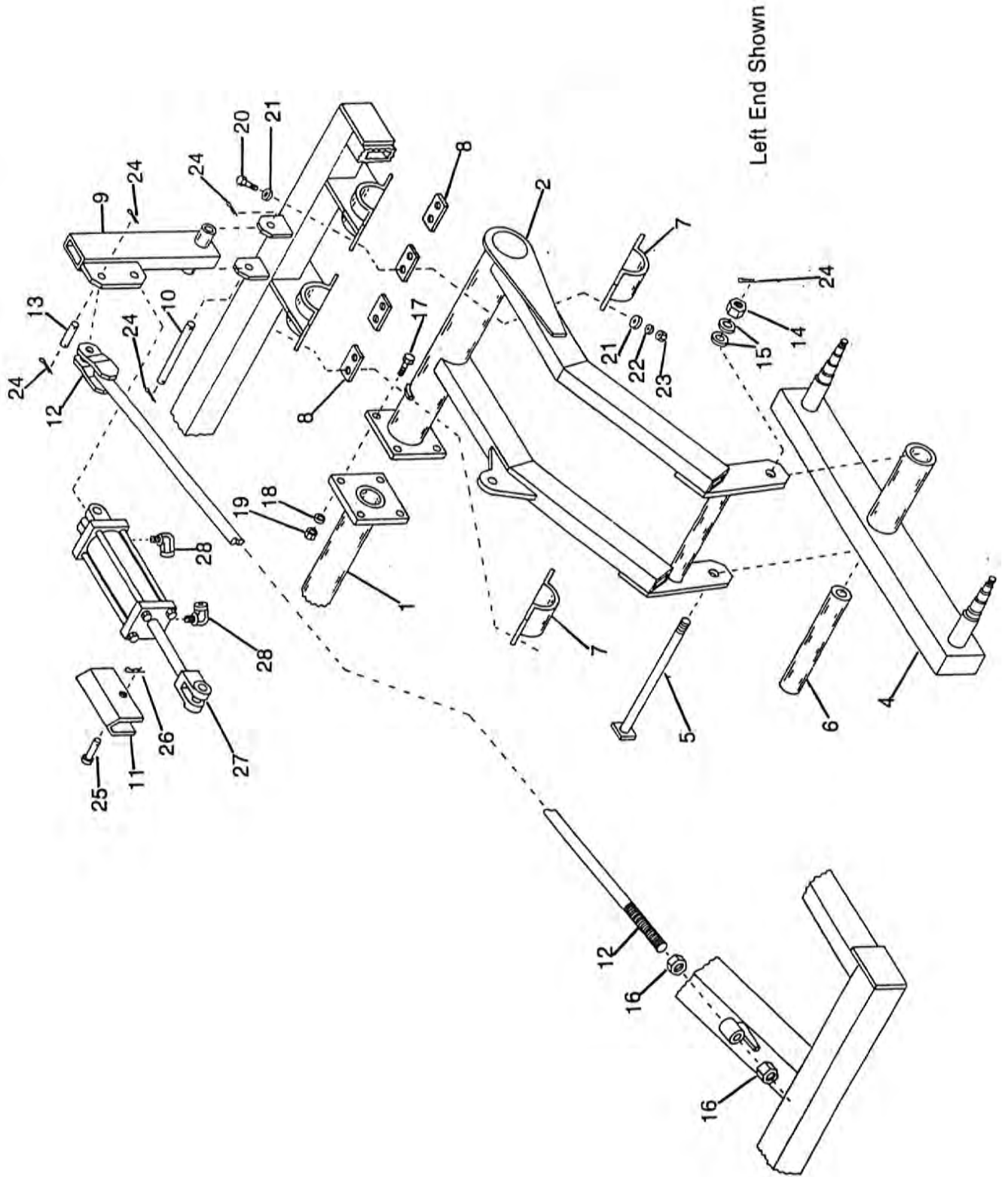
AUTOMATIC RESET COULTER



HITCH



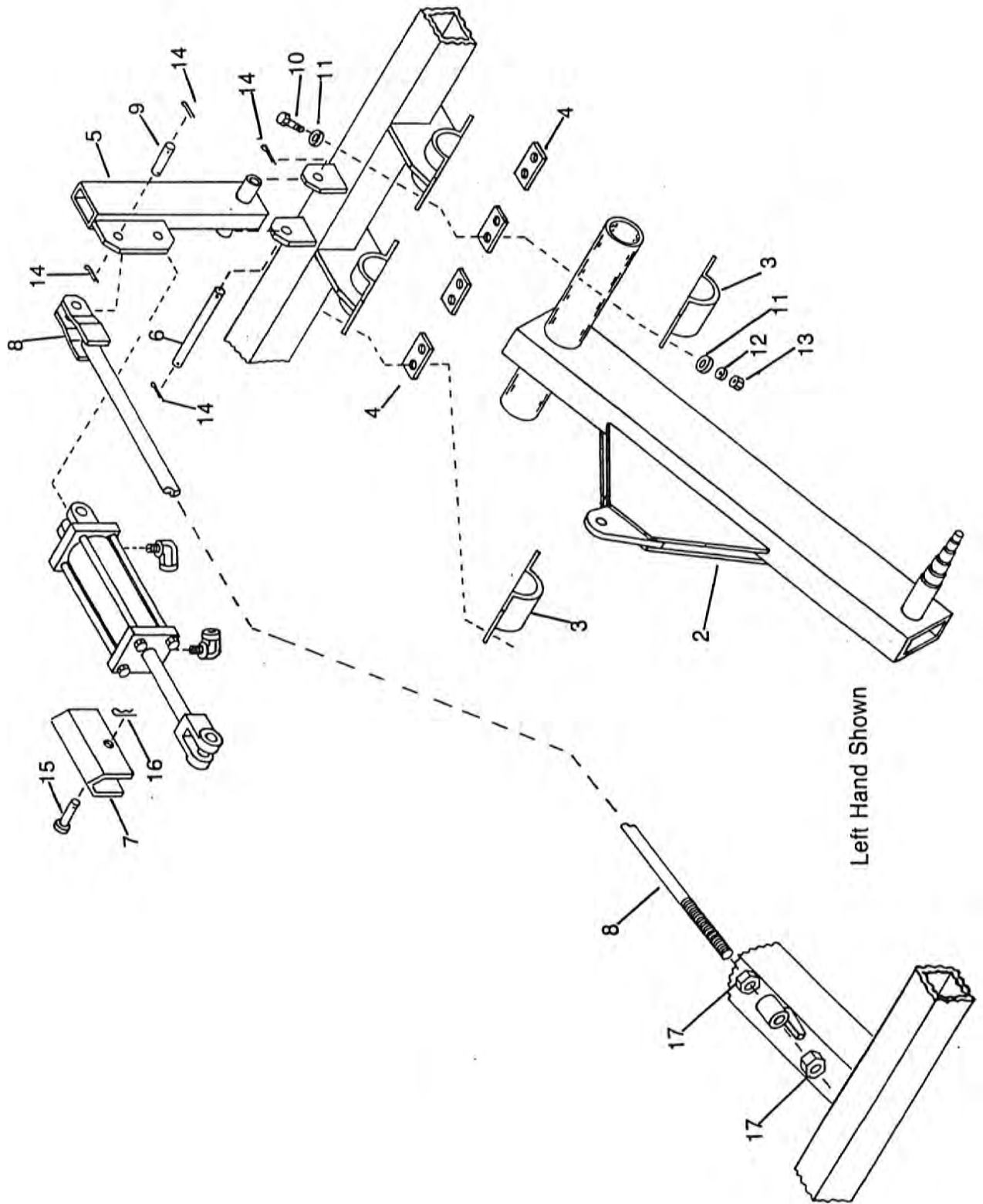
TORQUE TUBE, WALKING BEAM, CYLINDER MOUNT



TORQUE TUBE, WALKING BEAM, CYL. MT. ASSEMBLY

Item	Part No.	Qty.	Description
1	7700207	1	Torque Tube Center Section
2	7700208	1	Torque Tube Left End Section
3	7700209	1	Torque Tube Right End Section (Not Shown)
4	7700210	2	Walking Beam
5	7700211	2	Walking Beam Pin
6	7700212	2	Walking Beam Bushing
7	7700213	4	Hinge Clamp 4½ I.D.
8	7700214	8	Hinge Shim
9	7700215	2	Cylinder Mount
10	7700216	2	Cylinder Mount Hinge Pin 1" x 8¼"
11	7700217	2	Cylinder Safety Stop
12	7700218	2	Linkage Rod
13	7700219	2	Linkage Rod Pin 1" x 2-7/8"
14	4900036	2	1¼" Castle Nut
15	5000007	4	1¼" I.D. x 10 GA Washer
16	4900048	4	1¼" Hex Nut
17	4800115	8	¾ x 2½ Hex Bolt
18	5000012	8	¾ Lock Washer
19	4900004	8	¾ Hex Nut
20	4800114	16	½ x 2" Hex Bolt
21	5000004	32	½ Flat Washer
22	5000006	16	½ Lock Washer
23	4900001	16	½ Hex Nut
24	4800103	10	¼ x 2 Cotter Pin
25	4800045	2	¾ x 2½ Clevis Pin
26	4800056	2	3/16 Hair Pin
27		2	Cylinder (See Page 63 thru 66)
28	3800063	4	½" Street Elbows

WING, WHEEL AND CYLINDER MOUNT

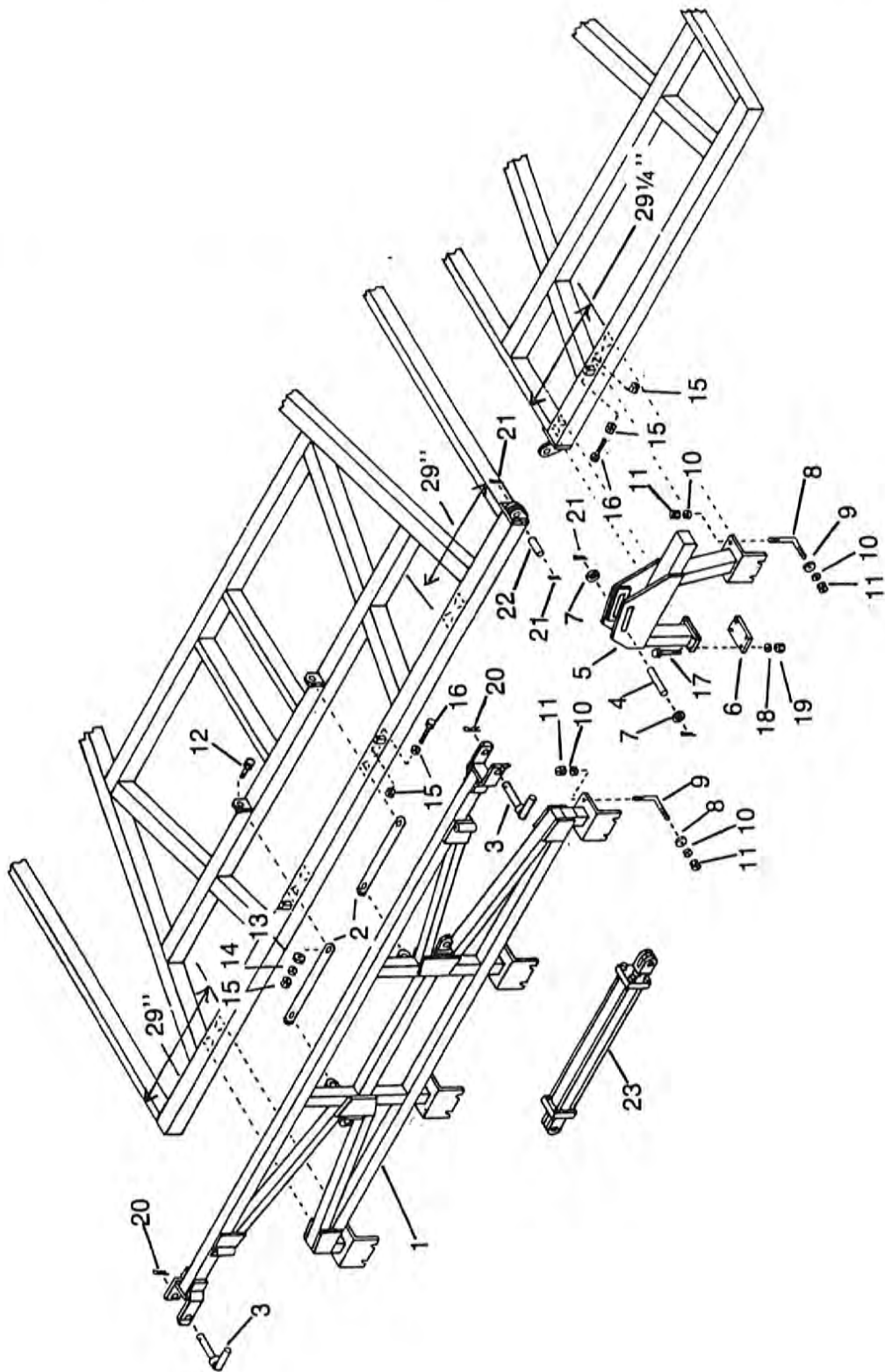


Left Hand Shown

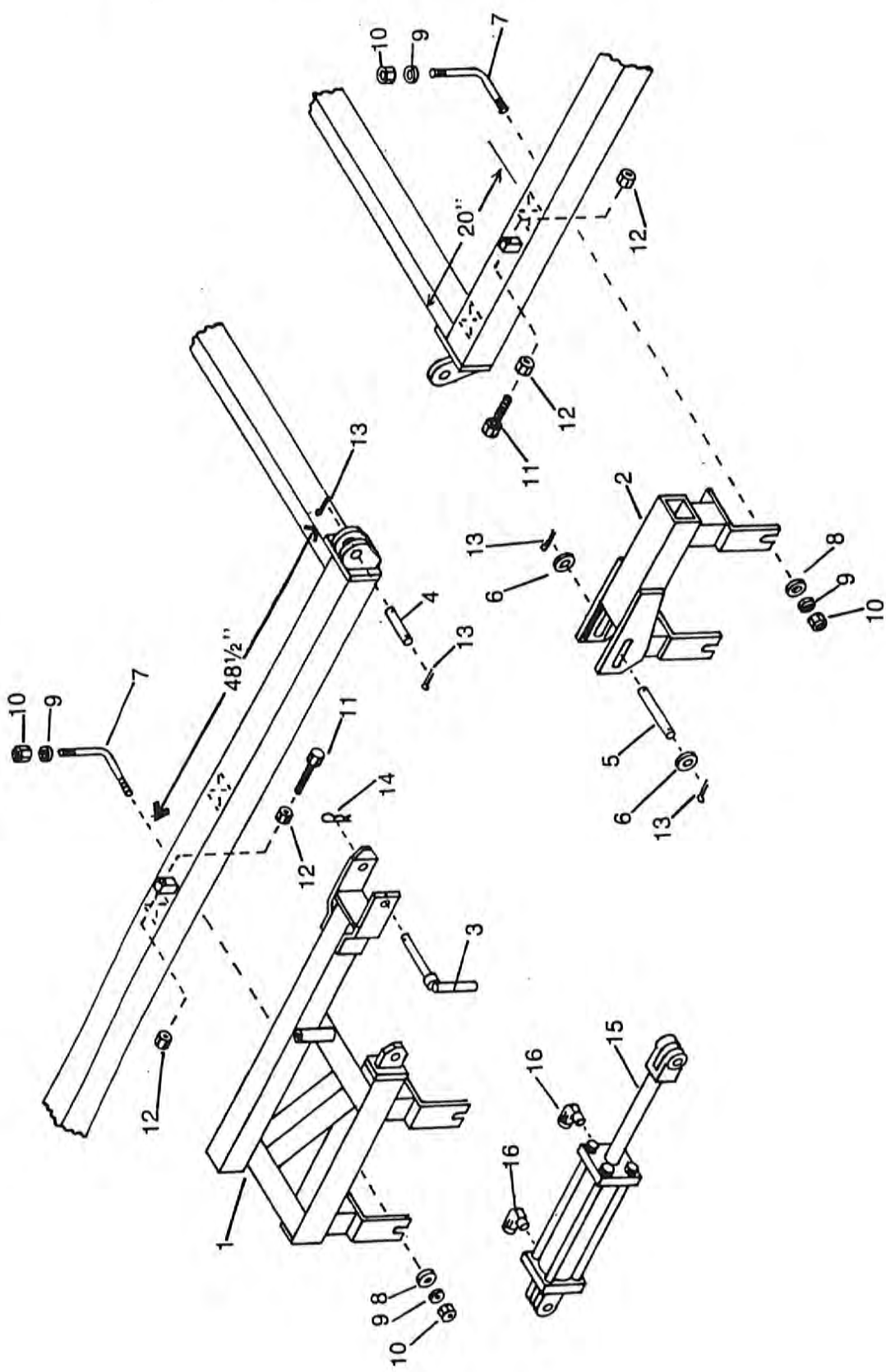
WING, WHEEL AND CYLINDER MOUNT

Item	Part No.	Qty.	Description
1	7700220	1	Wheel Frame Right Hand
2	7700221	1	Wheel Frame Left Hand
3	7700222	4	Hinge Clamp 3½ I.D.
4	7700214	8	Hinge Shim
5	7700215	2	Cylinder Mount
6	7700216	2	Cylinder Mount Hinge Pin 1" x 8¼"
7	7700217 271	2	Cylinder Safety Stop 271 1 3/8 x 9 3/4" Long (ORD Part # 77-271)
8	7700218	2	Linkage Rod
9	7700219	2	Linkage Rod Pin 1" x 2-7/8"
10	4800114	16	½" x 2" Bolt
11	5000004	32	½" Flat Washer
12	5000006	16	½" Lock Washer
13	4900001	16	½" Hex Nut
14	4800103	8	¼" x 2" Cotter Pin
15	4800045	2	¾" x 2½" Clevis Pin
16	4800056	2	3/16" Hair Pin
17	4900048	4	1¼" Hex Nut
18		2	Cylinders (See Page 63 thru 66)
19	3800008	4	½" 90° Street Elbows

4 SHANK WING FOLDING BRACKETS



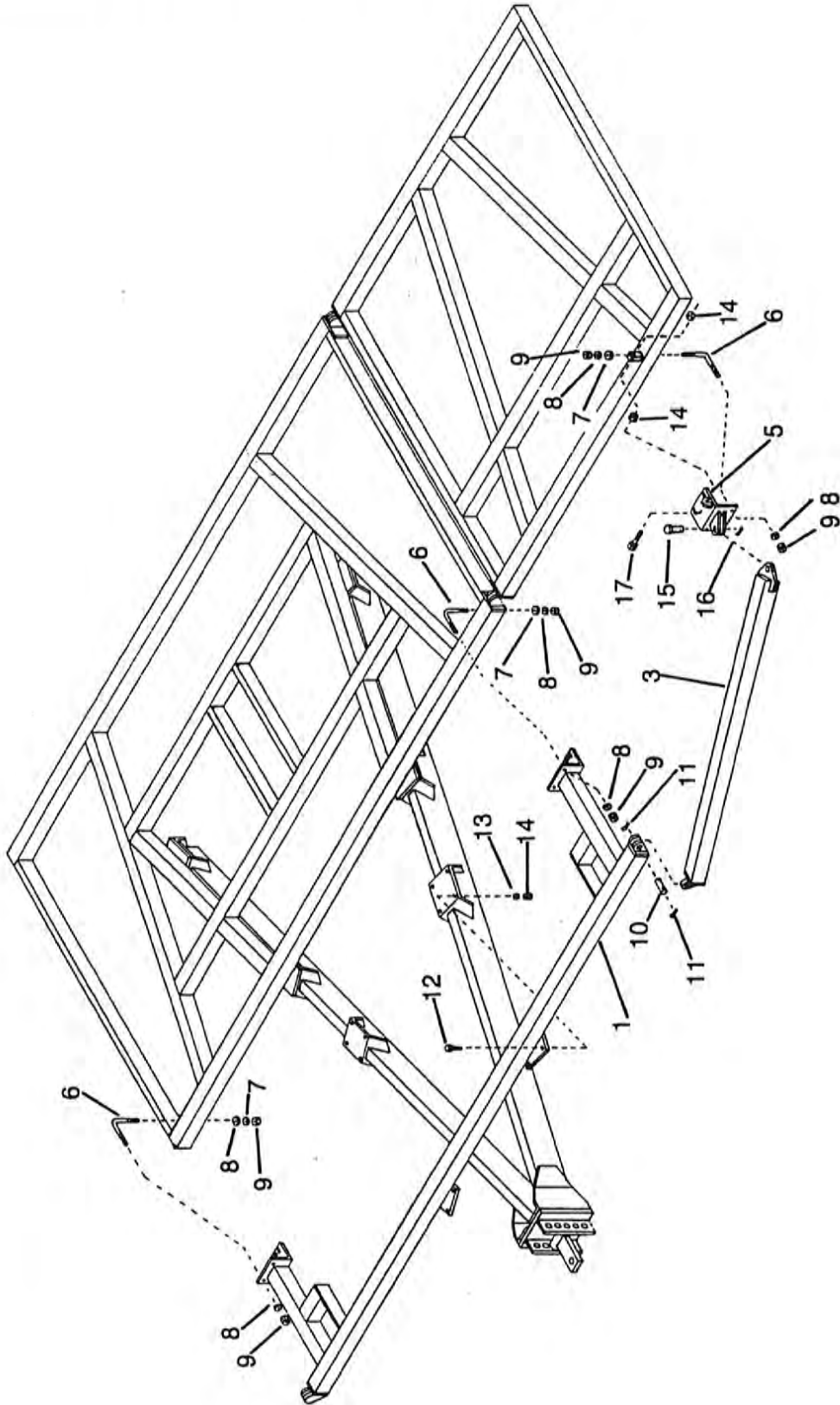
2 & 3 SHANK WING FOLDING BRACKETS



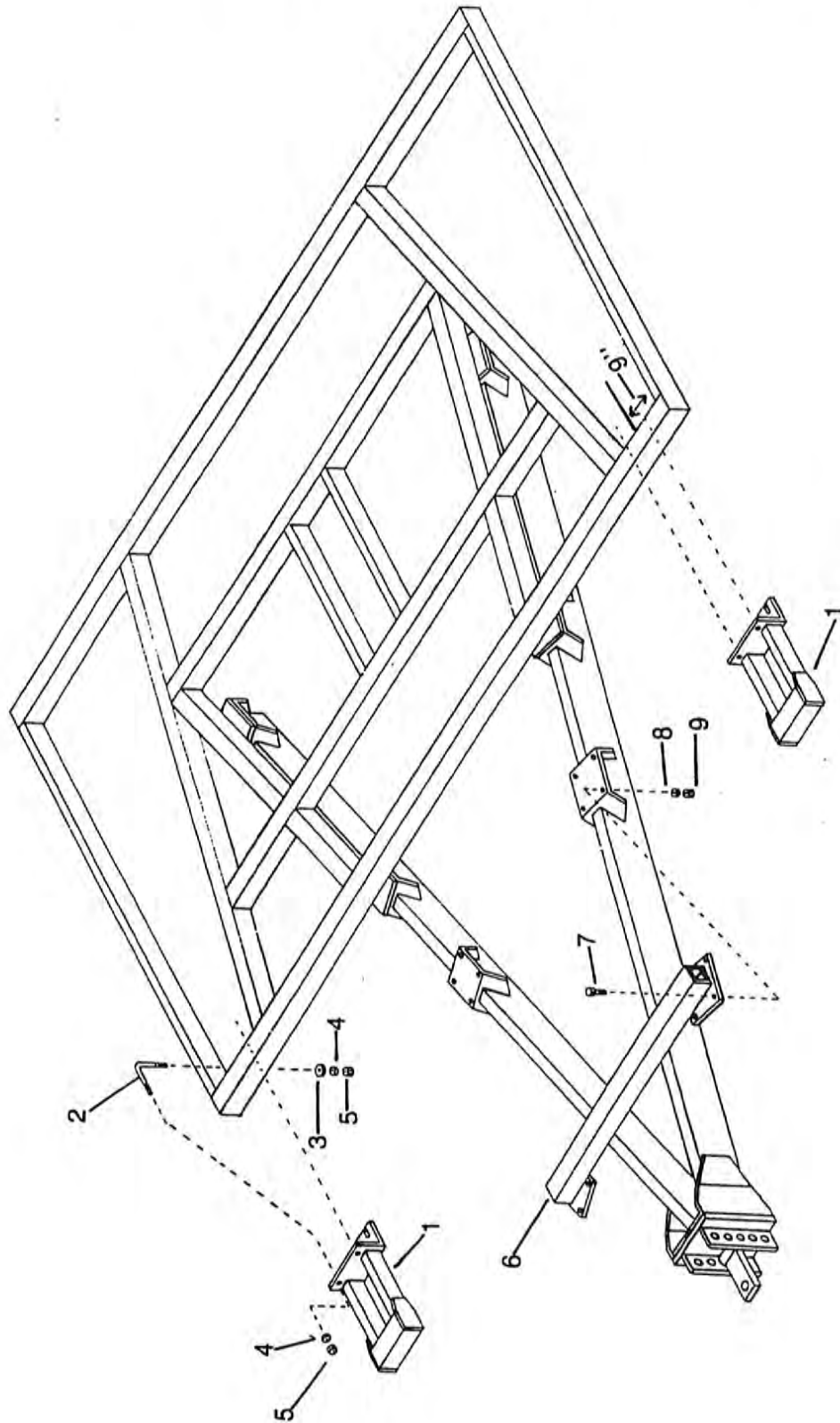
2 & 3 SHANK WING FOLDING BRACKETS

Item	Part No.	Qty.	Description
1	7700231	2	Fold Cylinder Mount 2 & 3
2	7700232	2	Wing Fold Bracket 2 & 3
3	7700234	2	Safety Pin
4	7700230	4	Wing Hinge Pin 1" x 4"
5	7700235	2	Cylinder Pin 1" x 6½"
6	5000014	4	1" Flat Washer
7	4800097	8	¾ L-Bolt 6¼ x 6¼
8	5000005	8	¾ Flat Washer
9	5000012	16	¾ Lock Washer
10	4900004	16	¾ Nut
11	4800217	4	5/8 x 4 Bolt (Special)
12	4900005	8	5/8 Nuts
13	4800103	12	¼ x 2 Cotter Pin
14	4800056	2	3/16 Hair Pin
15			3½ x 12 Cylinder (See Page 33 thru 66)
16			½ Male x 3/8 Female 90° Street Elbows (See Page 33 thru 66)

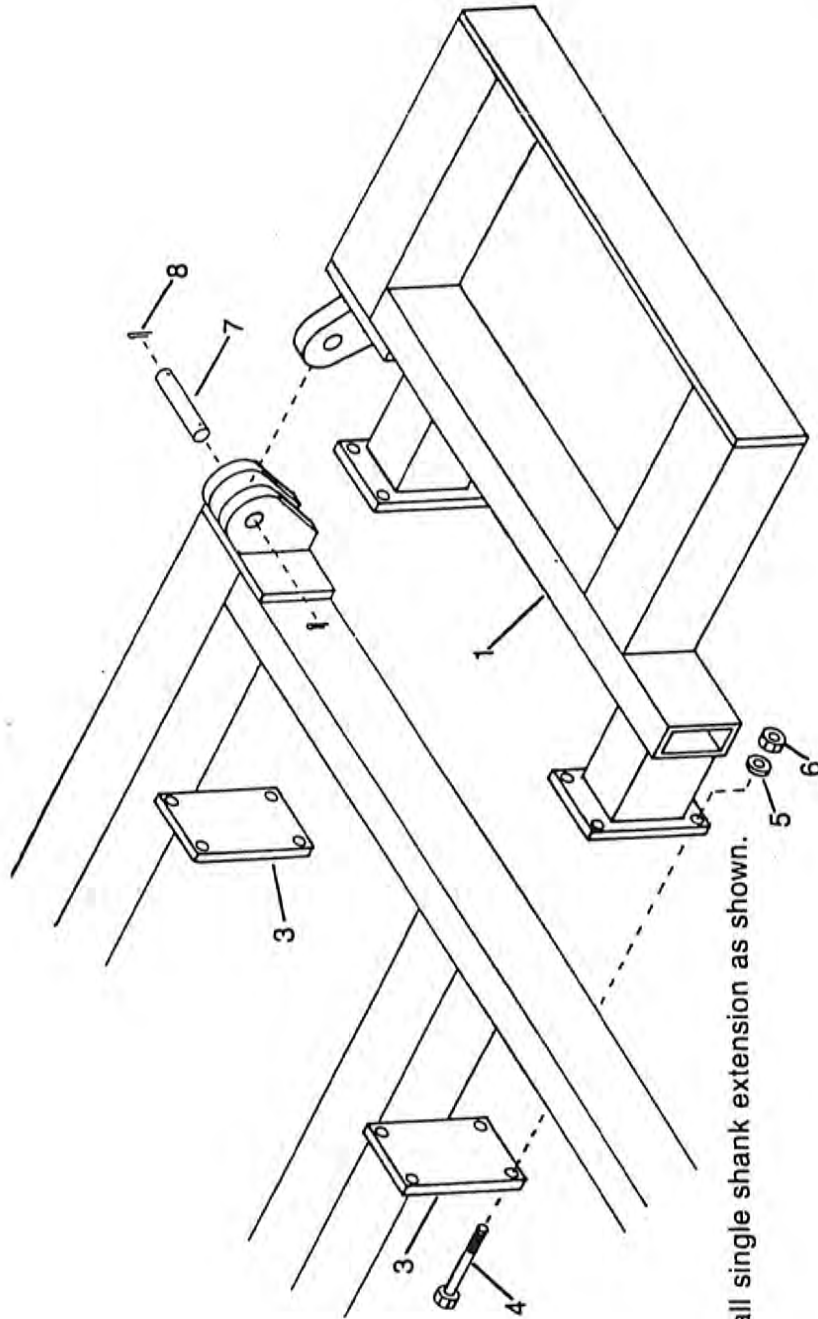
4 SHANK WING BRACE



COULTER EXTENSION, HITCH BRACE

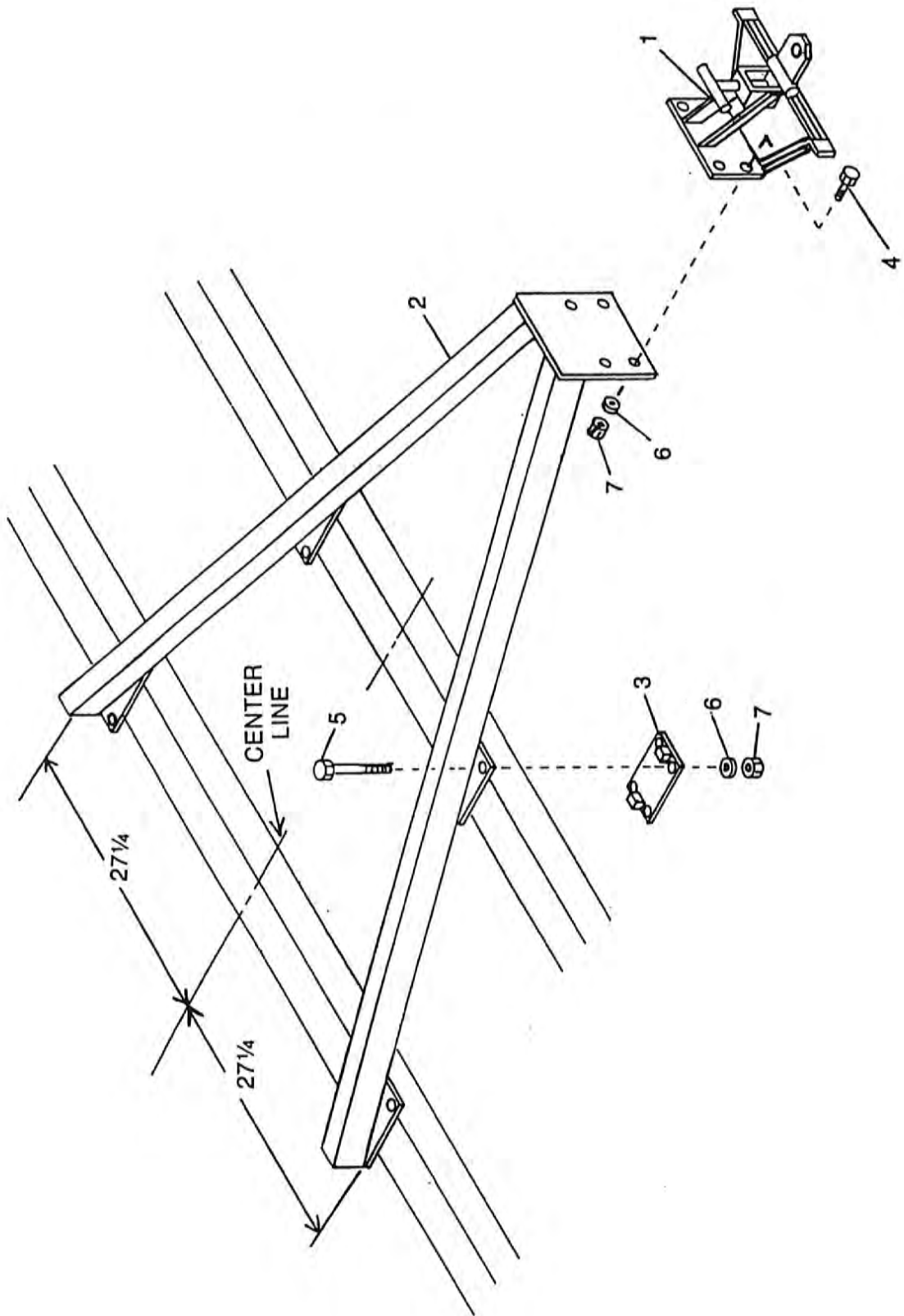


1 SHANK EXTENSION

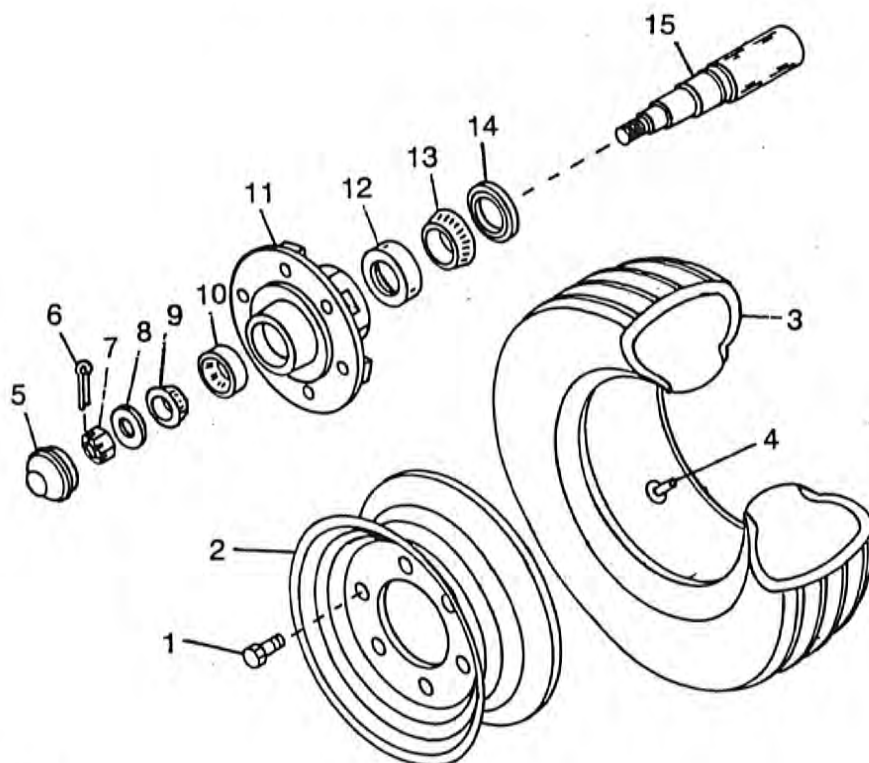


Install single shank extension as shown.

ANHYDROUS HITCH



AXLES AND WHEELS



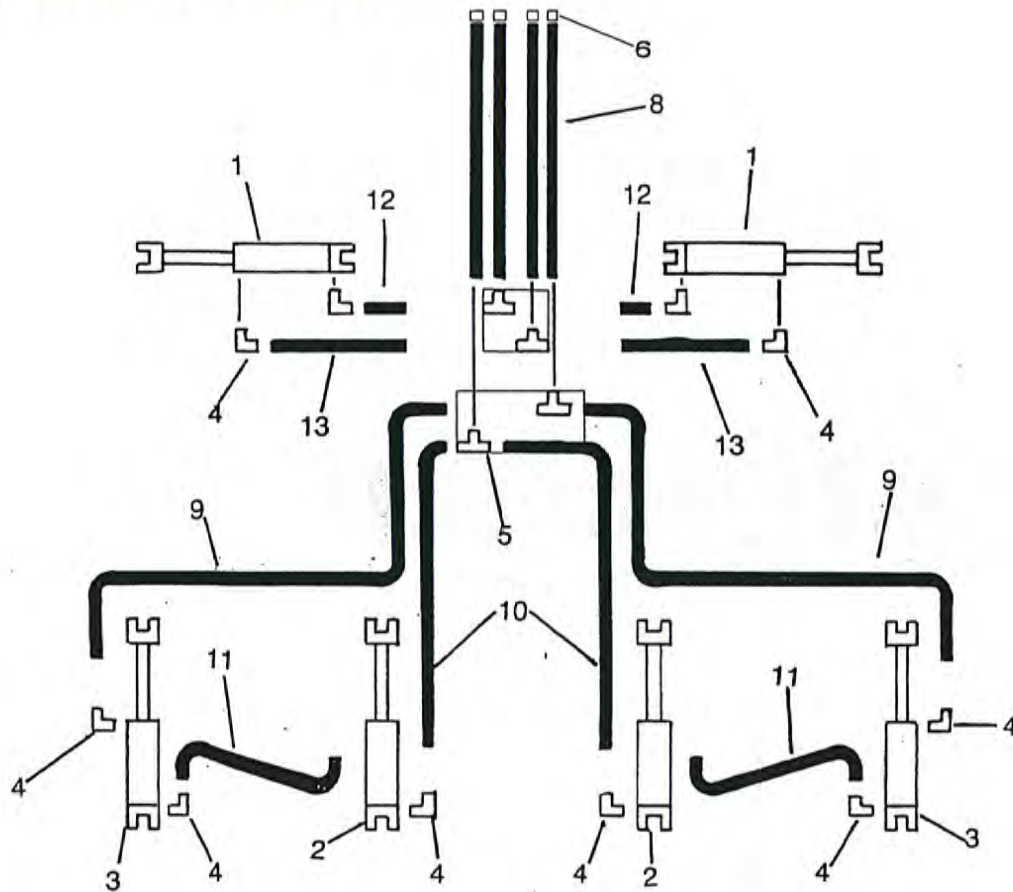
Running Gear Parts

Ref.	Part No.	Qty.	Description
1	2900010	6	Wheel Bolts, Per Hub
2	2800012	2	Wheel, 15 x 8 6-Bolt
3	2600009	2	Tire, 9.5L x 15
4	2700006	2	Tube, 9.5 x 15
5	2900013	1	Cap
6	3000003	1	Key, Cotter
7	3000012	1	Nut, Spindle
8	2900047	1	Washer, 7/8 Flat
9	2900018	1	Cone, Outer
10	2900004	1	Cup, Outer
11	2900068	1	Hub
12	2900006	1	Cup, Inner
13	2900007	1	Cone, Inner
14	2900065	1	Grease Seal
15	3000026	1	Spindle, Less Nut and Key
16	2900069	1	Hub Complete





33 FT. AND 37 FT. UNDERCUTTER HYDRAULICS

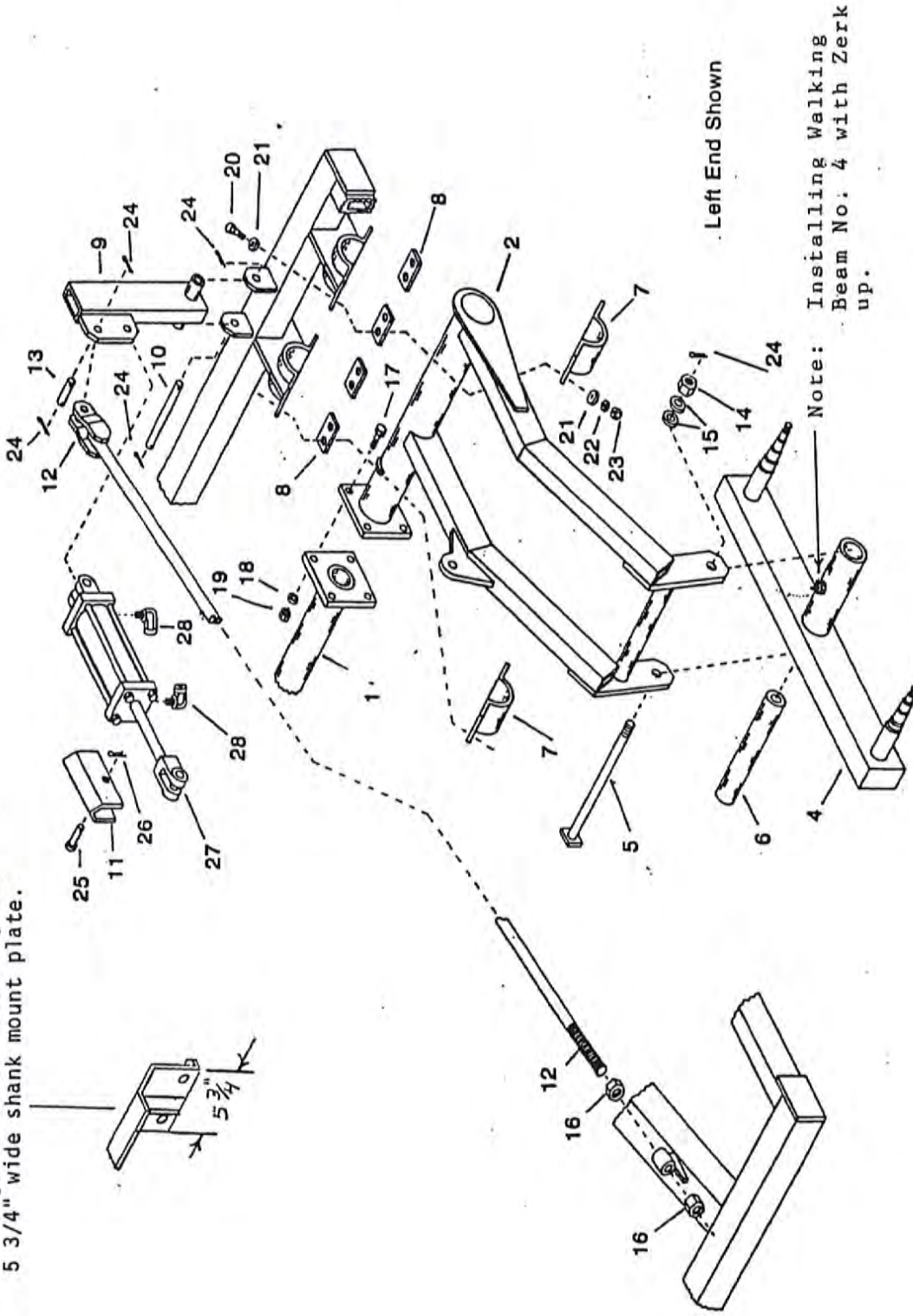


ITEM	PART NO.	QTY.	DESCRIPTION
1	4100275	2	CYL\HYD\4 X 36\1-3/4 RD
2	4100277	2	CYL\HYD\4X8\BYPASS\>
3	4100276	2	CYL\HYD\3-3/4X8\BYPASS
4	3800537	10	FTG\3/4MORX3/4MJIC\90
5	3800428	2	MNFLD\3/4FOR\DBL;TEE\BLK
6	3800694	4	FTG\3/4FOR\QUICK\CPLR
7			
8	3700814	4	HOSE\HYD\1/2X180\3/4MORSX3/4MORS
9	3700815	2	HOSE\HYD\1/2X236\3/4MORSX3/4FJIC
10	3700816	2	HOSE\HYD\1/2X126\3/4MORSX3/4FJIC
11	3700817	2	HOSE\HYD\1/2X114\3/4MORSX3/4FJIC
12	3700818	2	HOSE\HYD\3/8X30\3/4MORSX3/4FJIC
13	3700819	2	HOSE\HYD\3/8X66\3/4MORSX3/4FJIC

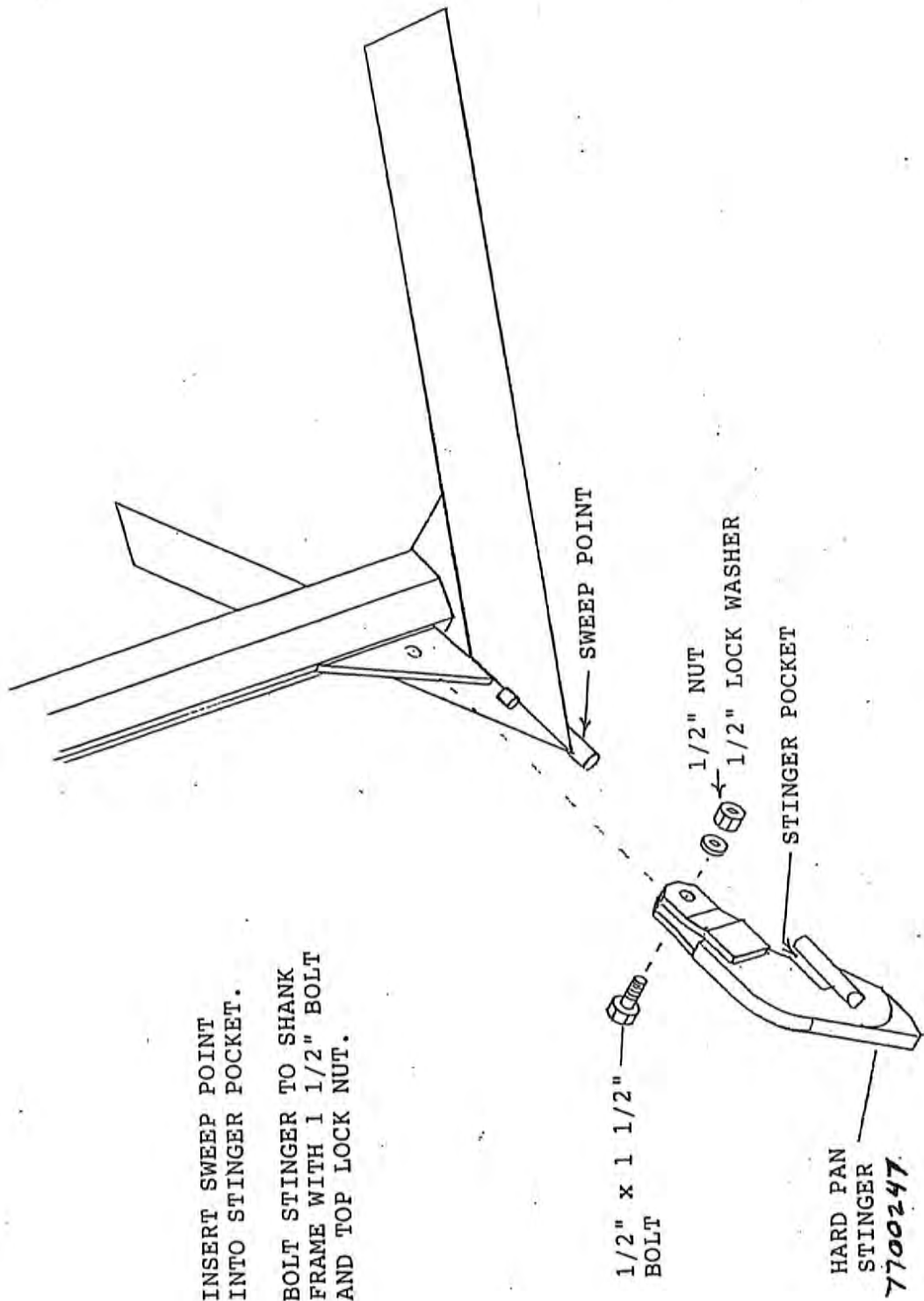


CENTER SECTION WHEEL INSTALLATION

NOTE: When mounting shank behind a wheel on wings or center section, use 5 3/4" wide shank mount plate.



- STEP 1. INSERT SWEEP POINT INTO STINGER POCKET.
- STEP 2. BOLT STINGER TO SHANK FRAME WITH 1 1/2" BOLT AND TOP LOCK NUT.



STINGER ASSEMBLY