

FORD

OPERATING AND ASSEMBLY INSTRUCTIONS

ROTARY HOES

SERIES 407

- Series 407-1 Two Section Lift Type**
- Series 407-2 Three Section Lift Type**
- Series 407-3 Four Section Lift Type**
- Series 407-4 Two Section Pull Type**
- Series 407-5 Three Section Pull Type**
- Series 407-6 Four Section Pull Type**
- Series 407-7 Six Section Pull Type**

TRACTOR AND IMPLEMENT DIVISION

Ford Motor Company

BIRMINGHAM, MICHIGAN

ROTARY HOE

PRE-DELIVERY CHECK LIST

Owner's Name _____

Address _____

Series _____ Serial No. _____

AFTER IMPLEMENT ASSEMBLY

- _____ Implement Lubricated thoroughly as outlined in Lubrication Section.
- _____ Implement cleaned and touch-up enamel used where necessary.
- _____ All bolts checked for tightness.
- _____ All cotter pins and pins in place.
- _____ Implement properly assembled according to the Assembly and Operating Manual.

AT TIME OF DELIVERY

- _____ Operation and adjustments of implement explained to owner as outlined in the Assembly and Operating Manual.
- _____ Lubrication fittings pointed out to owner.
- _____ Safety rules and precautions of operation explained to owner.



Ford Rotary Hoes are sold in components so that a variety of types and sizes are available to meet individual requirements. The complete rotary hoe line includes two, three and four section lift type units, as well as two, three, four and six section pull type units.

The lift type units are designed for use with Ford Tractors equipped with hydraulic systems and lift linkage as well as other tractors that have a similar three point hook-up. Parts necessary to adapt the Lift Type Rotary Hoe to an FMD are sold separately as extra equipment. Pull type units may be used with any tractor.

The front and rear hoe wheels in each section are staggered to obtain more thorough ground coverage. Each frame section is connected to the other at pivot points, which permit the hoe wheels to work the soil with a maximum degree of uniformity.

This manual is provided to acquaint you with the operation and maintenance of your new Ford Rotary Hoe. Read it carefully before operating the equipment, and keep it in a convenient location for later reference.

If at any time you have a question or problem concerning your new rotary hoe, remember that your Ford Tractor and Implement Dealer is best qualified and equipped to serve your needs.

OPERATION

The Ford Rotary Hoe is designed to do an effective job of destroying weeds in the early stages of growth, and is well suited for use on corn and other row crops as well as many of the small grains. It is used to best advantage when the crops are just coming through the ground or after the soil has been packed by heavy rains.

The rotary hoe is operated over the entire field to permit the aggressive action of the teeth to uproot the young weeds and leave the deeper rooted crops relatively undisturbed. This action serves to loosen the soil and cultivate the crops. Under some loose ground conditions, where it is beneficial to pack the soil, the hitch can be reversed and the hoe pulled backwards.

The following information is presented to aid the operator in getting maximum performance from this implement. Read it carefully.

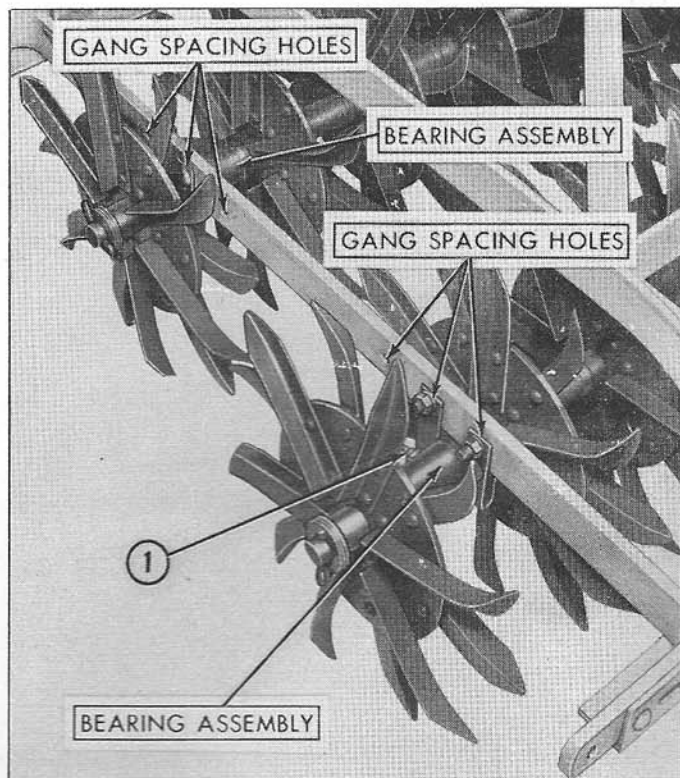


Figure 1

Gang Adjustments and Lubrication Points of the Rotary Hoe

TRACTOR SPEED

The Ford Rotary Hoe should be operated at a medium tractor speed when working very young seedlings, and at a relatively high tractor speed when working crops that have their roots well established in the soil. The hoe teeth are made to give their maximum weed uprooting and crust breaking action at relatively high speeds.

TRACTOR WHEEL SPACING

When using the Ford Rotary Hoe on row crops, the wheels of the tractor must be set so that they will travel between the crop rows.

PENETRATION

To increase the penetration of the hoe teeth, place weights (sand bags, cement blocks, etc.) on the frames of the hoe sections to obtain the desired working depth.

ADJUSTMENTS

Setting Space Between Gangs: Figure 1 shows the location of the series of three holes in the frame that are used to change the spacing between the front and rear gangs. For normal operating con-

ditions, set the gangs as far apart as possible, as shown in Figure 1. For extremely trashy conditions, set the gangs as close together as possible. This will enable the rear gangs to clean the trash off of the front gangs.

Reversing the Implement: To reverse the rotary hoe, remove the hitch and attach it to the corresponding holes on the rear frame of the rotary hoe sections. This setting reduces the aggressiveness of the hoe teeth and is recommended for seed bed firming or clod busting.

Leveling Lift Type Units: For lift type units, the tractor top link should be adjusted to level the implement for transport. In most cases, the normal setting would be 23 inches for four-wheel model Ford Tractors, 25 inches for tricycle model Ford Tractors, and 27 inches for Fordson Major Diesel Tractors.

The forward end of the top link should be attached in the lowest hole in the rocker arm on four wheel model Ford Tractors, and in the middle hole in the rocker arm on tricycle models. The leveling crank on the tractor right lift rod should be adjusted so that the implement is level.

Hydraulic System Selector Lever: Operate lift type units on Ford Tractors with the selector lever in Implement Position Control.

NOTE: For the Fordson Major Diesel Tractor, a Position Control Attachment, Part No. 102150 is available as extra equipment for ease in lowering the implement to the desired operating depth.

Six Section Pull Type Hitch Adapter: The Six Section Hitch Adapter Cables may be adjusted for tension by means of the square nuts on the cable ends. See insert "B", Figure 5.

LUBRICATION

A lubrication fitting (1), Figure 1, is located on each of the four bearings for each section. Wipe the fittings clean and force enough grease into the bearings to carry out the grit and dirt and to seal the bearings from outside dirt and dust. Lubricate every eight hours, or more often if required, with a good grade of grease.

MAINTENANCE

1. Keep the bearings well lubricated when in use.
2. Store the implement in a clean, dry place, on a wood or concrete floor when possible.
3. Use Ford Spray Type Touch-Up Paint to prevent rust and maintain the appearance of the implement.
4. Keep all of the nuts tight.
5. Use genuine Ford Tractor and Implement repair parts from your Ford Tractor and Implement Dealer.

SAFETY PRECAUTIONS

Most farm equipment accidents can be avoided by following these simple safety precautions.

1. Do not permit anyone but the operator to ride the tractor at any time.
2. Do not allow anyone to ride on the implement.
3. Do not make adjustments on the tractor or implement when the tractor is in motion.
4. The operator should never leave the tractor seat when the tractor is in motion.
5. Always shut off the engine when leaving the tractor.
6. Always lower the implement to the ground when leaving the tractor.
7. Keep the tractor keys where they are not available to children.
8. Work safely, avoid accidents.

ROTARY HOE

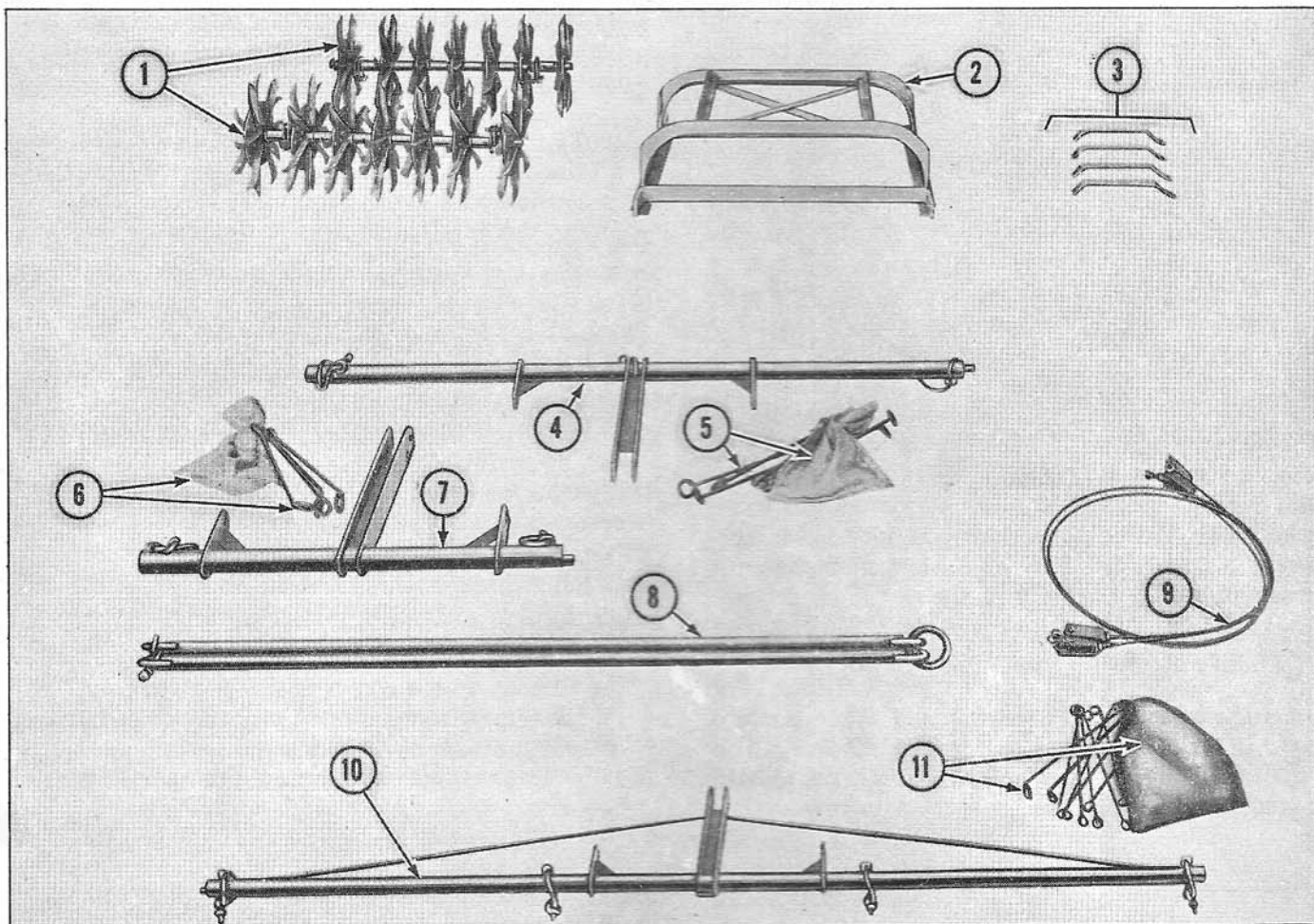


Figure 2

Rotary Hoe Bundle Breakdown

SHIPPING INFORMATION

The components of the Ford Rotary Hoe are bundled for shipment as shown in Figure 2. Check the shipment against Figure 2, and the following list for the model concerned, to make certain all parts are received. An A & O Manual is included in the bag of hardware with each lift type hitch and taped to one of the tubes on each pull type hitch.

<u>Model No.</u>	<u>Item</u>	<u>Description</u>	<u>Bundle No.</u>
13-99	1	Rotary Hoe Gang Assembly, Front	102828
13-99	1	Rotary Hoe Gang Assembly, Rear	107500
13-99	2	Rotary Hoe Frame Assembly	102827
13-100	7	Two Section Lift Drawbar Assembly	133712
13-100	6	Two Section Lift Link Assembly with Burlap Bag of Hardware Attached. NOTE: 4 End Braces (Item 3) are also attached to this bundle.	133714
13-101	4	Three Section Lift Drawbar Assembly	133651

ROTARY HOE

13-101	5	Three Section Lift Link Assembly with Burlap Bag of Hardware attached. NOTE: 6 End Braces (Item 3) are also attached to this bundle.	133715
13-121	10	Four Section Lift Drawbar Assembly	102829
13-121	11	Four Section Lift Link Assembly with Burlap Bag of Hardware attached. NOTE: 8 End Braces (Item 3) are also attached to this bundle.	102830
13-102	8	Pull Type Hitch for the 2, 3, 4 and 6 Section Rotary Hoe	13-102
13-103	9	Pull Type Hitch Adapter (6 Section Rotary Hoe)	13-103

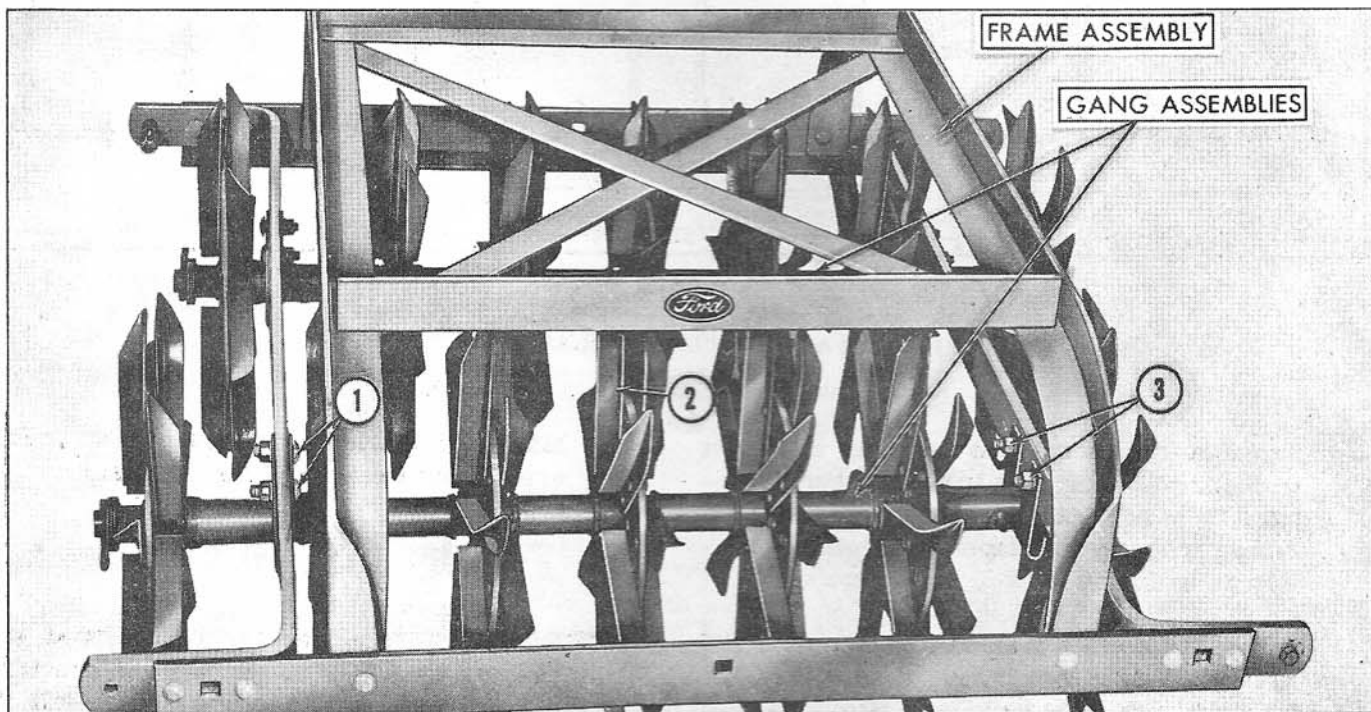


Figure 3

Assembly of a Rotary Hoe Section

ASSEMBLY PROCEDURE

Remove wires from shipping bundles and lay out parts to facilitate assembly.

1. Assemble two rotary hoe gang assemblies and hangers to a frame assembly with four 7/16" x 1-1/4" carriage bolts, washers and nuts as shown at (1) and (3), Figure 3.

NOTE: The front and rear gangs are differentiated only by the bearings being in different locations. Position the gang as-

semblies as shown in Figure 3, with the frame decal facing the rear.

2. Repeat step 1 for each section to be assembled until the desired number of sections is complete.

IMPORTANT: Make sure the hoe teeth (2) on each gang are facing the same direction and that the hoe wheels are staggered. Space the gangs as far apart as possible as shown in Figure 1, unless operating in extremely trashy conditions. The gangs then should be close together to enable the rear gangs to clean the front gangs.

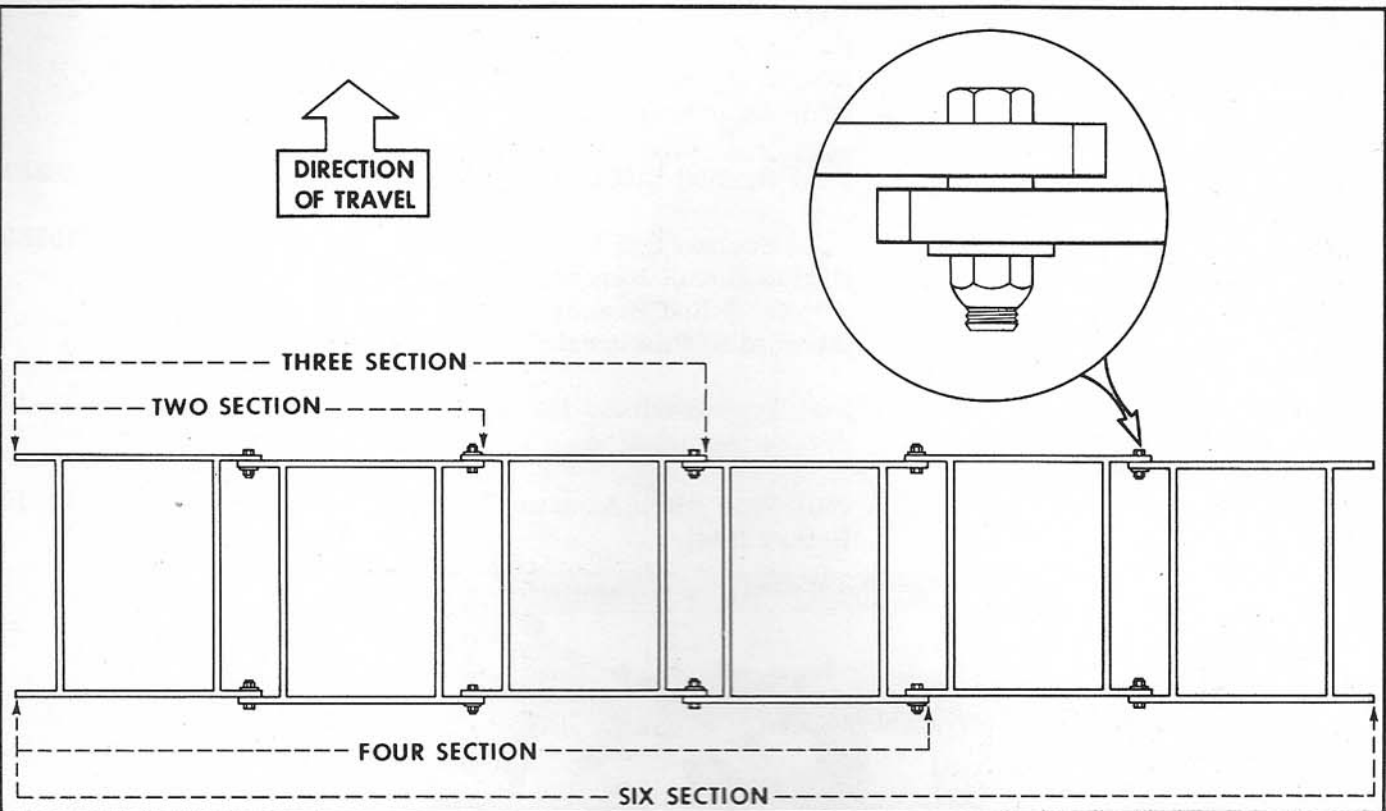


Figure 4

Positioning and Attaching of Rotary Hoe Sections

3. Position the rotary hoe sections as shown in Figure 4, according to the number of sections to be assembled. Be sure each section frame properly overlaps the adjoining section as indicated.
4. Attach the section frames together with the 7/16" x 1-3/4" hex head bolts, spacers, washers and hex lock nuts provided, as shown in the insert, Figure 4.

IMPORTANT: Install the washer on the side where it will be flush with the spacer. The bolt may be inserted from either side.

PULL TYPE HITCH

1. Attach the pull type hitch assembly to the proper sections as illustrated in Figure 5, with the eye bolts, lockwashers and nuts provided. See Insert "A" for details.
2. On the six section rotary hoe, attach the adapter cables (9), Figure 2, to the pull type

hitch and the outer sections as shown in Figure 5. See Insert "B" for details.

LIFT TYPE HITCH

NOTE: All lift type hitches are equipped with link pins designed for use with Ford Tractors. It will be necessary to procure and install the following parts, if the rotary hoe is to be used with the FMD Tractor:

Two 109771 FMD Link Pins
 One 9N560 Top Link Pin
 One 109272 Bushing

1. Bolt an end brace, Figure 7, to the rear of the frame on each rotary hoe section with two 7/16" x 1-1/4" hex head bolts, lock washers and nuts, as shown at (5), Figure 7.
2. Bolt an end brace to the front of the frame on each rotary hoe section with a 5/8" x 1-1/2" hex head bolt, lockwasher and nut, as shown at (6), Figure 7.

ROTARY HOE

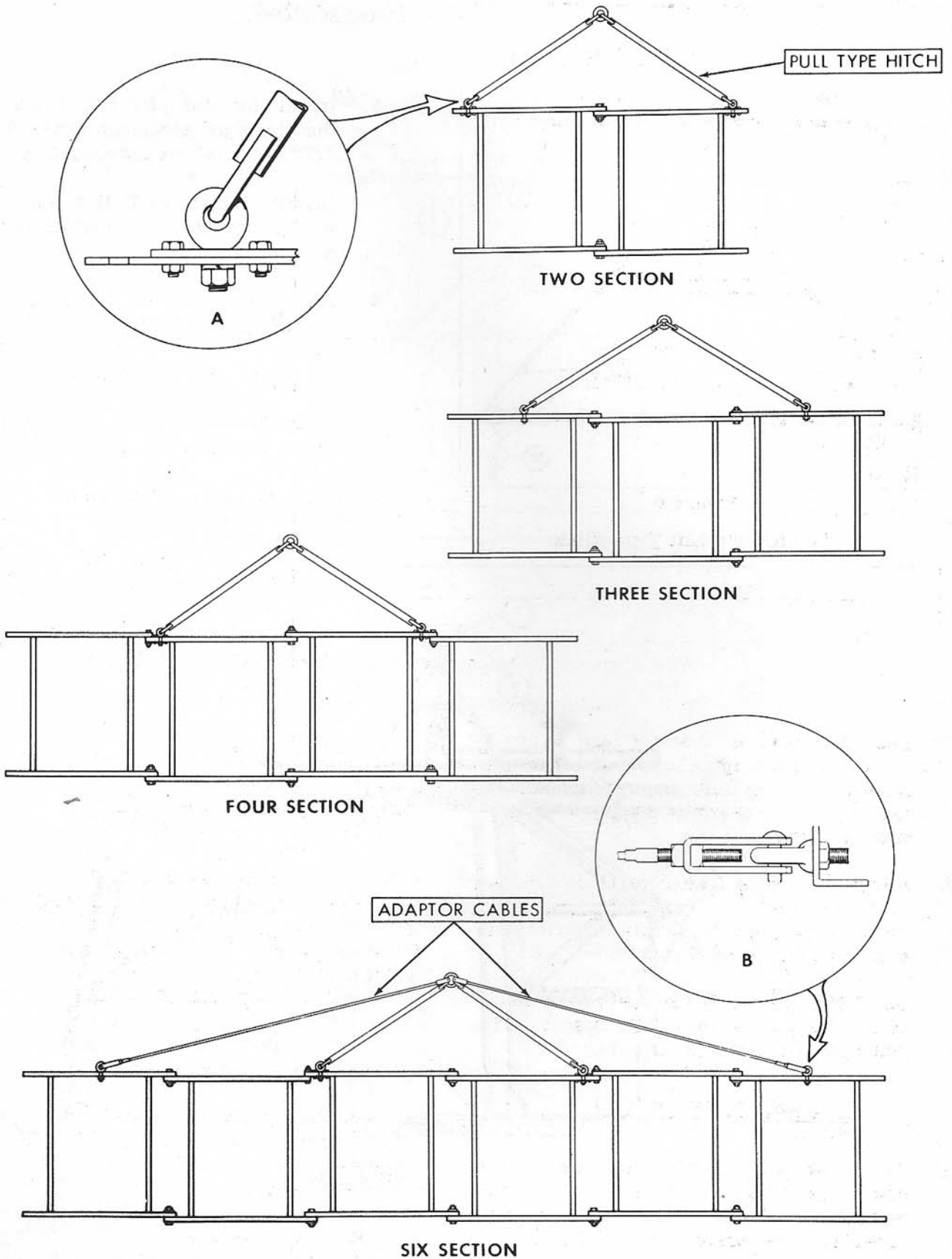


Figure 5
Attachment of Pull Type Hitches to Rotary Hoe

TWO SECTION:

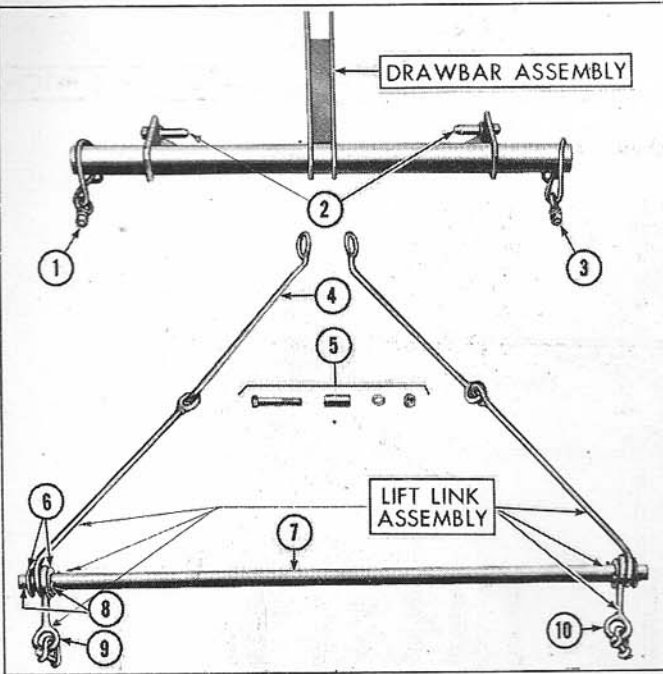


Figure 6

Two Section Lift Type Hitch

3. Install the link pins (2), Figure 6, in the drawbar assembly using the two 7/8" lockwashers and hexnuts provided.

NOTE: Install FMD link pins 109771 in the opposite direction of the Ford pins.

4. Assemble the lift link assembly by positioning the link assembly (4), Figure 6, the link (9) and the flat washers (6) on the rod (7), as shown, and secure with cotter pins (8). Install the link assembly and link on the other side of the rod in the same manner.
5. Position the drawbar assembly in front of the sections as shown in Figure 7.

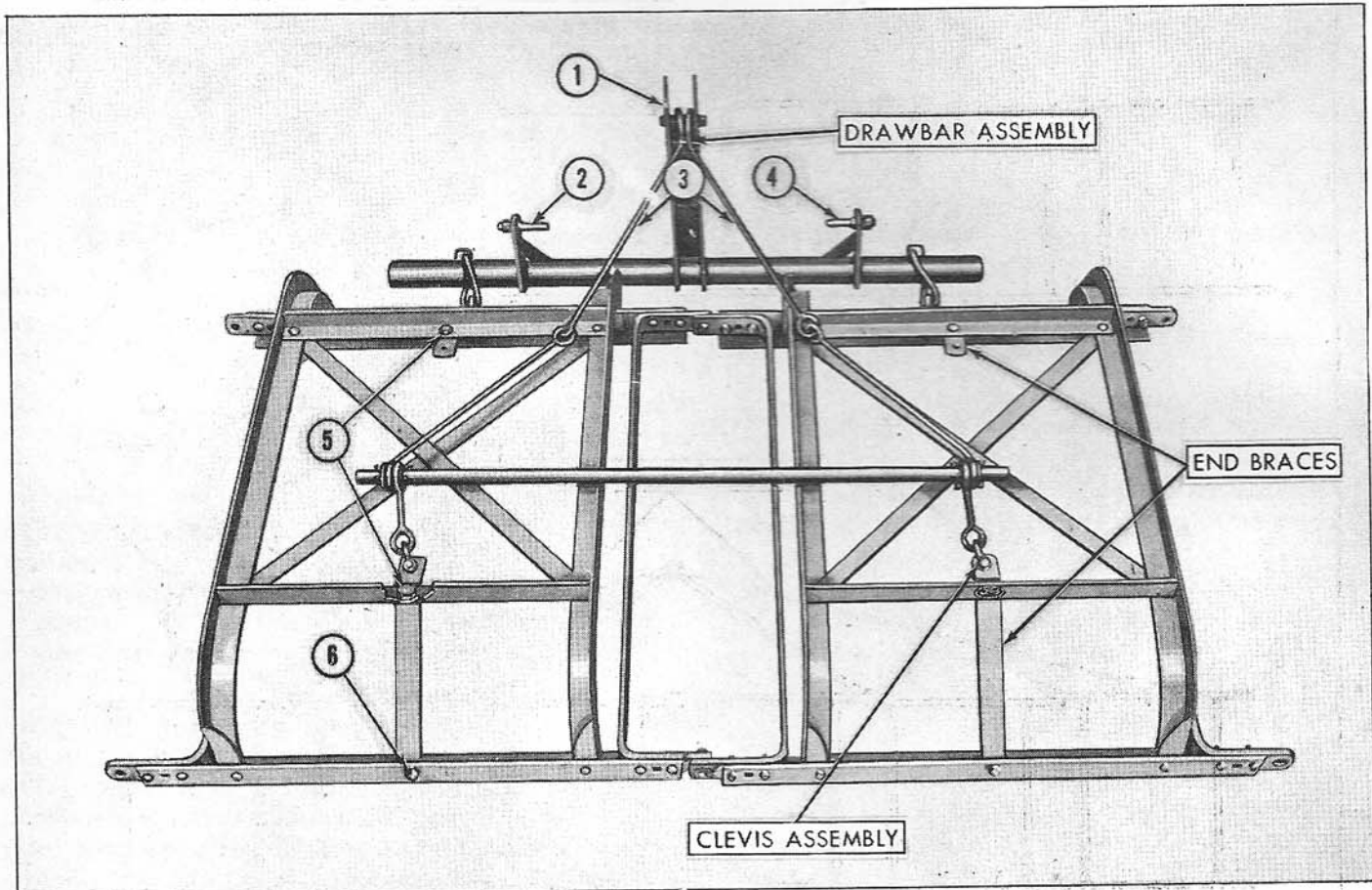


Figure 7

Two Section Lift Type Rotary Hoe Assembled (gangs removed to better illustrate hitch)

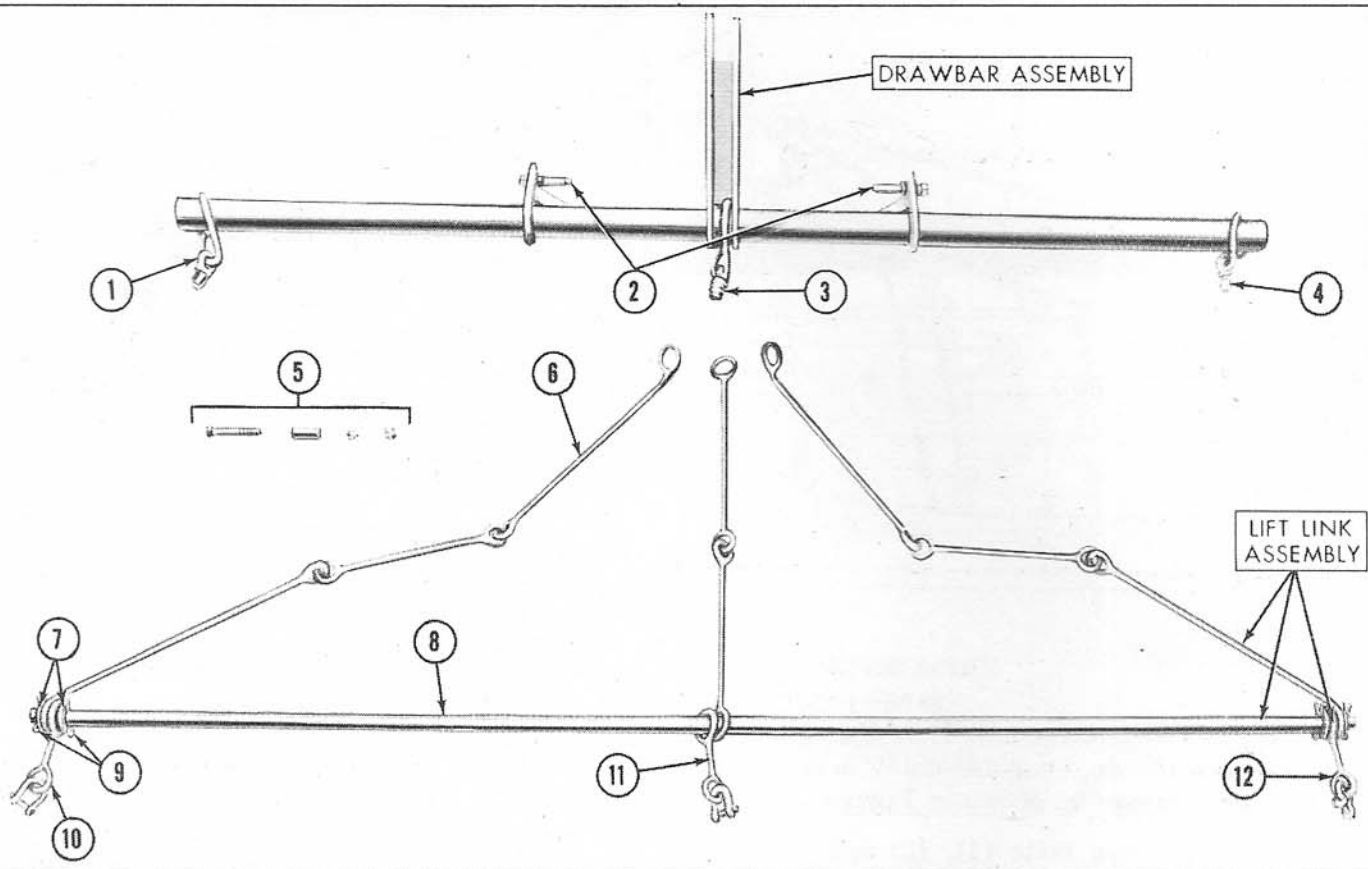


Figure 8

Three Section Lift Type Hitch

6. Attach the eye bolts (1) and (3), Figure 6, to the front of each section with the 5/8" washer and nut provided as shown in Figure 7. Note that the eye bolts also secure the front end brace to the frame in each section.

IMPORTANT: Be sure the eye bolts are installed with the eye in a vertical position.

7. Position the lift link assembly on the sections as shown in Figure 7. Attach the links (9) and (10), Figure 6, to the rear end brace of each section with the shackle assembly provided.
8. Attach the forward end of the link assemblies (3), Figure 7, to the drawbar assembly as shown, with the 5/8" x 3-1/2" hex head bolt, spacer, lockwasher and nut (see 5, Figure 6).
9. Attach the tractor lower lift links to the link pins (2) and (4), Figure 7, and secure with the linch pins provided. At-

tach the tractor upper link to the drawbar assembly at (1) with the pin and linch pin provided.

THREE SECTION:

3. Install the link pins (2), Figure 8, in the drawbar assembly using the two 7/8" lockwashers and hex nuts provided.

NOTE: Install FMD link pins 109771 in the opposite direction of the Ford pins.

4. Assemble the lift link assembly by positioning the link assembly (6), Figure 8, the link (10) and the flat washers (7) on the rod (8) as shown and secure with cotter pins (9). Install the remaining link assemblies and links in the same manner.

NOTE: The link (11) is longer than the other two and should be positioned in the center as shown.

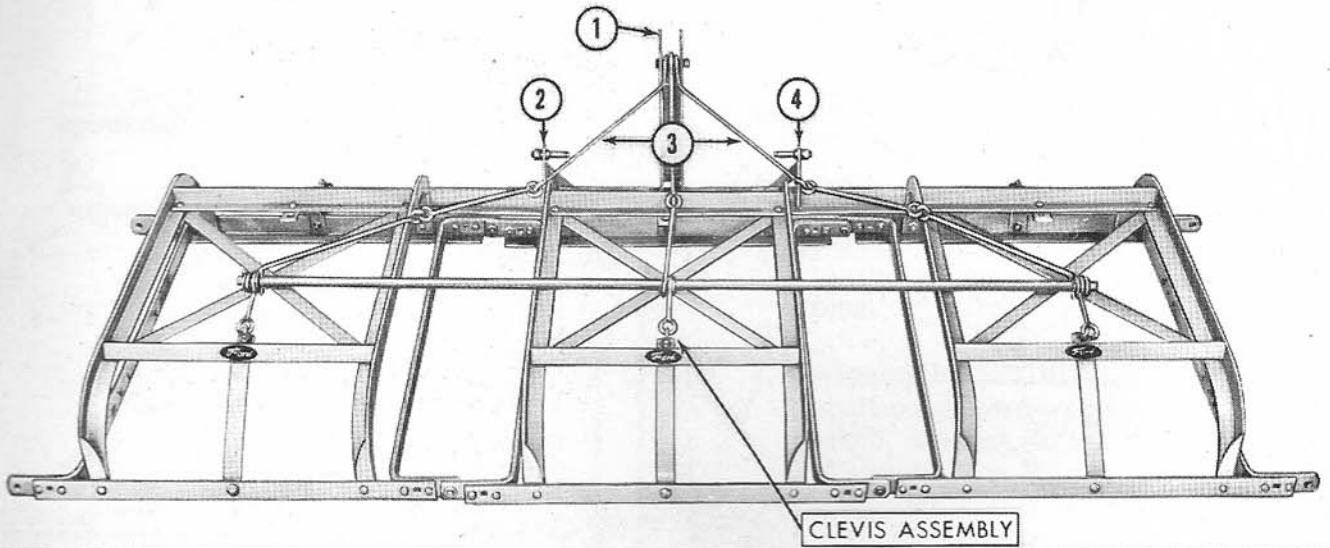


Figure 9

Three Section Lift Type Rotary Hoe Assembled
(gangs removed to better illustrate hitch)

5. Position the drawbar assembly in front of the sections as shown in Figure 9.
6. Attach the eye bolts (1), (3) and (4), Figure 8, to the front of each section with the 5/8" washer and nut provided as shown in Figure 9. Note that the eye bolts also secure the front end brace to the frame in each section.

IMPORTANT: Be sure the eye bolts are installed with the eye in a vertical position.

7. Position the lift link assembly on the sections and attach the links (10), (11)

and (12), Figure 8, to the rear end brace of each section with the shackle assembly as shown in Figure 9.

8. Attach the forward end of the link assemblies (3), Figure 9, to the drawbar assembly as shown, with the 5/8" x 3-1/2" hex head bolt, spacer, lockwasher and nut (see 5, Figure 8).
9. Attach the tractor lower lift links to the link pins (2) and (4), Figure 9, and secure with the linch pins provided. Attach the tractor upper link to the drawbar assembly at (1) with the pin and linch pin provided.

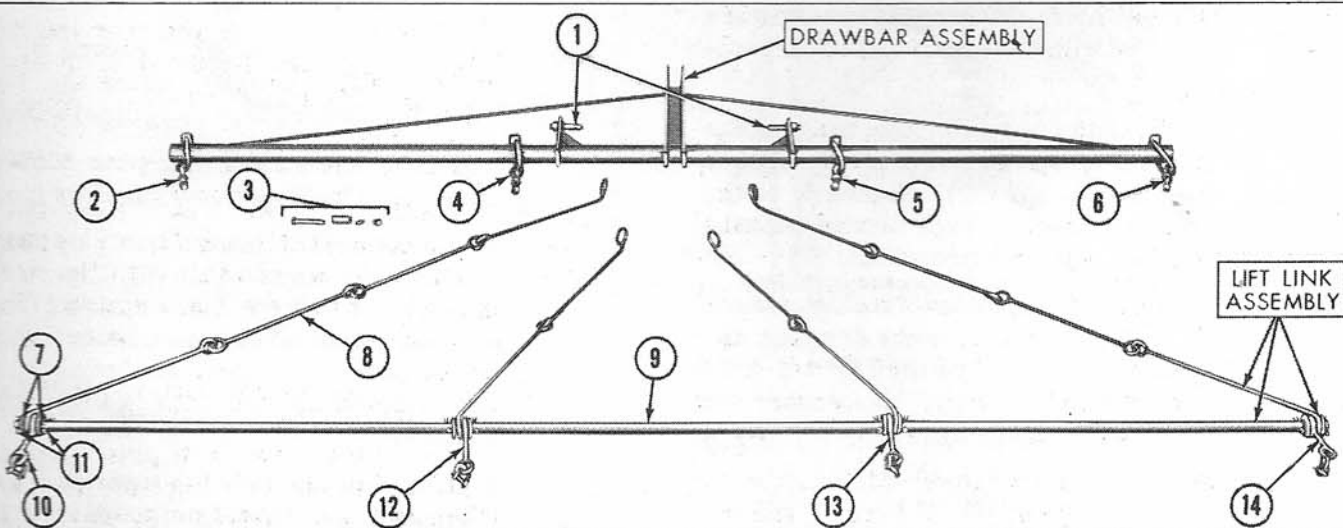


Figure 10

Four Section Lift Type Hitch

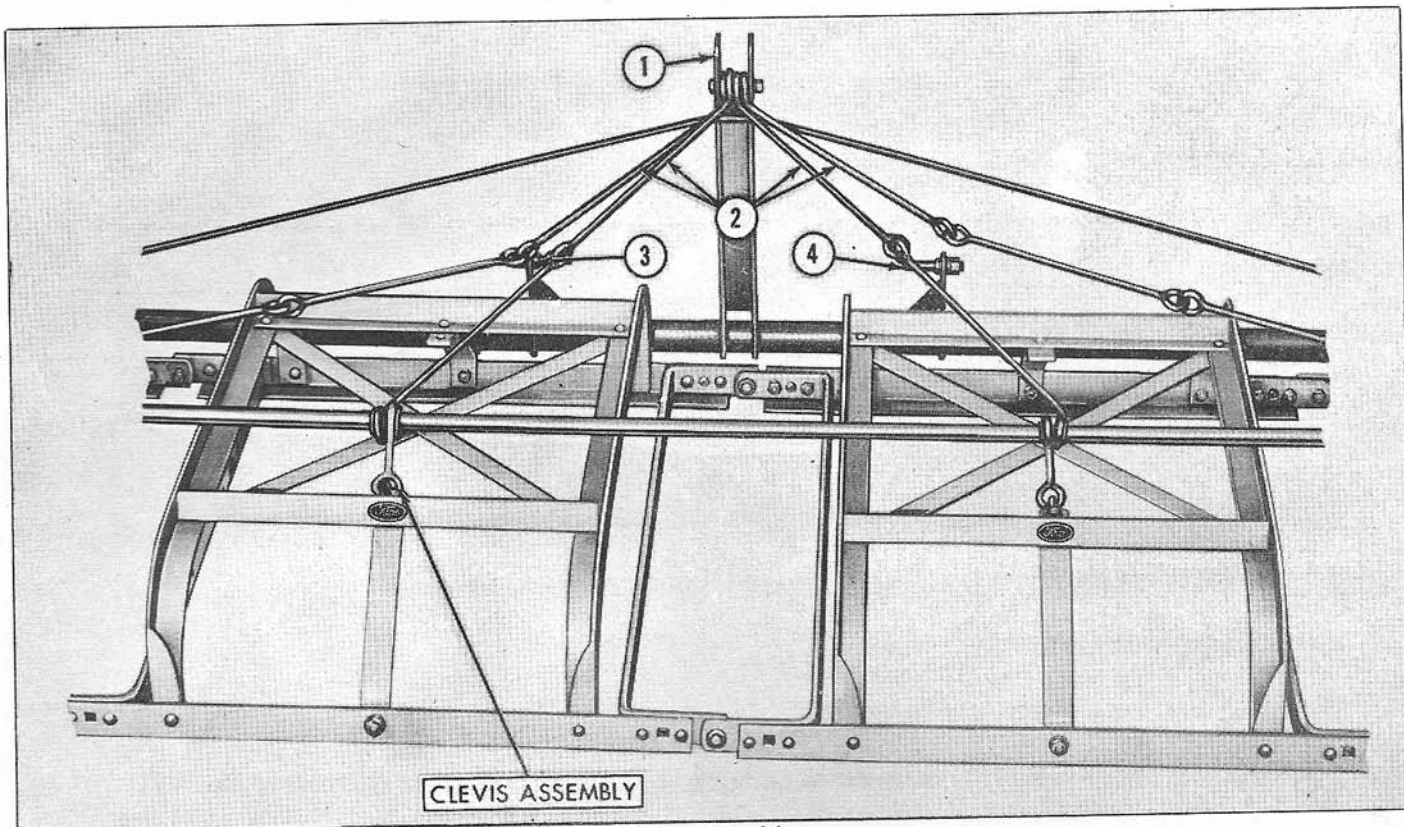


Figure 11

**Four Section Lift Type Rotary Hoe Assembled
(gangs removed to better illustrate hitch)**

FOUR SECTION:

3. Install the link pins (1), Figure 10, in the drawbar assembly using the two 7/8" lockwashers and hex nuts provided.

NOTE: Install FMD link pins 109771 in the opposite direction of the Ford pins.

4. Assemble the lift link assembly by positioning the link assembly (8), Figure 10, the link (10) and the flat washers (7) on the rod (9) as shown and secure with cotter pins (11). Install the remaining link assemblies and links in the same manner.

NOTE: The links (12) and (14) are longer than the other two and should be positioned as shown.

5. Position the drawbar assembly in front of the sections as shown in Figure 11.
6. Attach the eye bolts (4) and (5), Figure 10, to the front of the center sections with the 5/8" washer and nut provided as shown in Figure 11. Note that the eye bolts also secure the front end brace to the frame in each section. Attach

the eye bolts (2) and (6), Figure 10, to the two end sections in the same manner.

NOTE: Be sure the eye bolts are installed with the eye in a vertical position.

7. Position the lift link assembly on the sections and attach the links (12) and (13), Figure 10, to the rear end brace of each section with the shackle assembly as shown in Figure 11. Attach the links (10) and (14), Figure 10, to the two end sections in the same manner.
8. Attach the forward end of the link assemblies (2), Figure 11, to the drawbar assembly as shown, with the 5/8" x 3-1/2" hex head bolt, spacer, lockwasher and nut (see 3, Figure 10).
9. Attach the tractor lower lift links to the link pins (3) and (4), Figure 11, and secure with the linch pins provided. Attach the tractor upper link to the drawbar assembly at (1) with the pin and linch pin provided.