

Assembly Instructions



24- and 30-Foot, No-Till Flat Fold Marker Option

Used with:

- 2N-2410 and 2N-3010 Drills
- 2N-2420 and 2N-3020 Drills



When you see this symbol, the subsequent instructions and warnings are serious - follow without exception. Your life and the lives of others depend on it!

General Information

These instructions explain how to assemble, install and setup the optional hydraulic markers for your two-section, folding no-till drill. The units are operated hydraulically and have a cast hub, tapered roller bearings and a bolt-on notched blade to cut through heavy residue, leaving a line to follow on the next field pass. Markers are sold as single or dual units. Dual markers are equipped with a sequence valve for easy operation.

These instructions apply to:

- 113-498A 24-Foot No-Till Left-Hand Flat-Fold Marker
- 113-499A 24-Foot No-Till Dual Flat-Fold Markers
- 113-500A 30-Foot No-Till Left-Hand Flat-Fold Marker
- 113-501A 30-Foot No-Till Dual Flat-Fold Markers

Manual Update

Refer to the drill operator's manual for detailed information on safely operating, adjusting, troubleshooting and maintaining the markers. Refer to the drill parts manual for part identification.

- 2N-2410 and 2N-3010 Operator's Manual 196-126M
- 2N-2420 and 2N-3020 Operator's Manual 196-164M
- 2N-2410 and 2N-3010 Parts Manual 196-126P
- 2N-2420 and 2N-3020 Parts Manual 196-164P

Definitions

Right and left as used in this manual are determined by facing the direction the machine will travel while in use unless otherwise stated.

IMPORTANT: A crucial point of information related to the preceding topic. For safe and correct operation, read and follow the directions provided before continuing.

NOTE: Useful information related to the preceding topic.

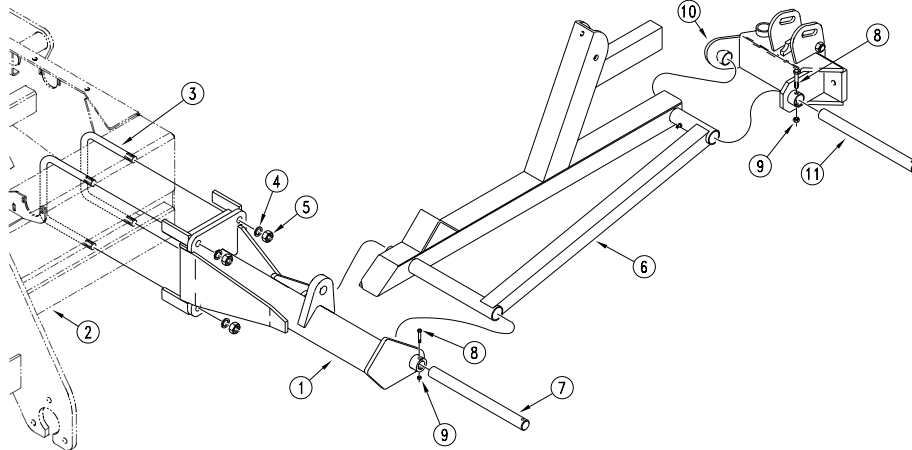


Figure 1
Marker Assembly

Before You Start

Pages 8 through 11 are detailed listings of parts included in the marker kit. Use these lists to inventory parts received.

Assembly and Setup Instructions

Marker Assembly

Refer to Figure 1.

1. Park the drill in an area large enough for folding and unfolding the assembled markers. A single marker will increase the width of the drill by 15 feet.
1. Unfold and lower the drill. Park and shut off the tractor.
2. The marker sections are pre-assembled and banded together for shipment. Unpack the shipment and group the assemblies according to right-hand or left-hand.



CAUTION!

Do not lift the assemblies unassisted. Lifting the assemblies without mechanical aid could cause severe injury. Use a forklift or hoist to move the assemblies during installation, or disassemble the assemblies into smaller pieces before installation.



WARNING!

You could be severely injured by a failing assembly. Obey all safety instructions from lifting-equipment manufacturer. Do not walk or place any body part under the raised sections. Be sure lifting equipment has enough capacity.

NOTE: These instructions explain how to assemble the marker if the sections are completely disassembled. If you do not have adequate lifting equipment, disassemble the sections before proceeding. If you do have a forklift or hoist large enough to lift the pre-assembled sections, you can skip many of the following steps.

3. Install the left-hand marker mount (1) on the left wing (2) of the drill. Install the mount as close to the outside of the drill as possible. Fasten the mount to the 6-by-8-inch frame tube using two u-bolts (3), lock washers (4) and nuts (5). Install the first section of the marker (6) on the mount (1) by pushing the pivot shaft (7) through the pivot holes on the mount and the first section. Use the bolt (8) and lock nut (9) to secure the shaft.

Mount the left-hand breakaway hinge (10) onto the first section (6) by pushing the pivot shaft (11) through the pivot holes in each part. Use the bolt (8) and lock nut (9) to secure the shaft.

Assembly Instructions

Refer to Figure 2.

4. Pin the base end of the hydraulic cylinder (12) to the marker mount (1) using the pin and clip (13 and 14). Remove the plastic plugs from the cylinder ports. Pull the rod end of the cylinder out to its maximum length. Pin the rod end of the cylinder to the breakaway hinge using the cylinder pin, flat washers and cotter pins provided.
 5. Install the chain bar (18) on the first section (6) with the bolt (19) and lock nut (20). The chain bar should pivot freely around the bolt (19).
 6. Install the full-threaded adjustment bolt (21) in the hole directly above the pivot bolt (19). To install, first thread one lock nut (22) up the entire length of the adjustment bolt.
- Next, push the bolt with nut through the hole. Complete the assembly by threading a second lock nut (22) up the entire remaining length of the adjustment bolt.
- After marker assembly, use the adjustment bolt to control folding slack. For now, turn the adjustment bolt so its head extends as little as possible to prevent damage the first time the marker is folded.
7. Thread a utility clevis (23) through one end of the chain (24). Pin this clevis to the chain bar (18) using the pin and cotter pin (25 and 26) provided. Do not fully bend the cotter pin at this time. Thread a second utility clevis (23) through the last link at the opposite end of the chain (24). Pin this clevis to the rounded end of the chain bar (27) using the pin and cotter pin (25 and 26) provided.

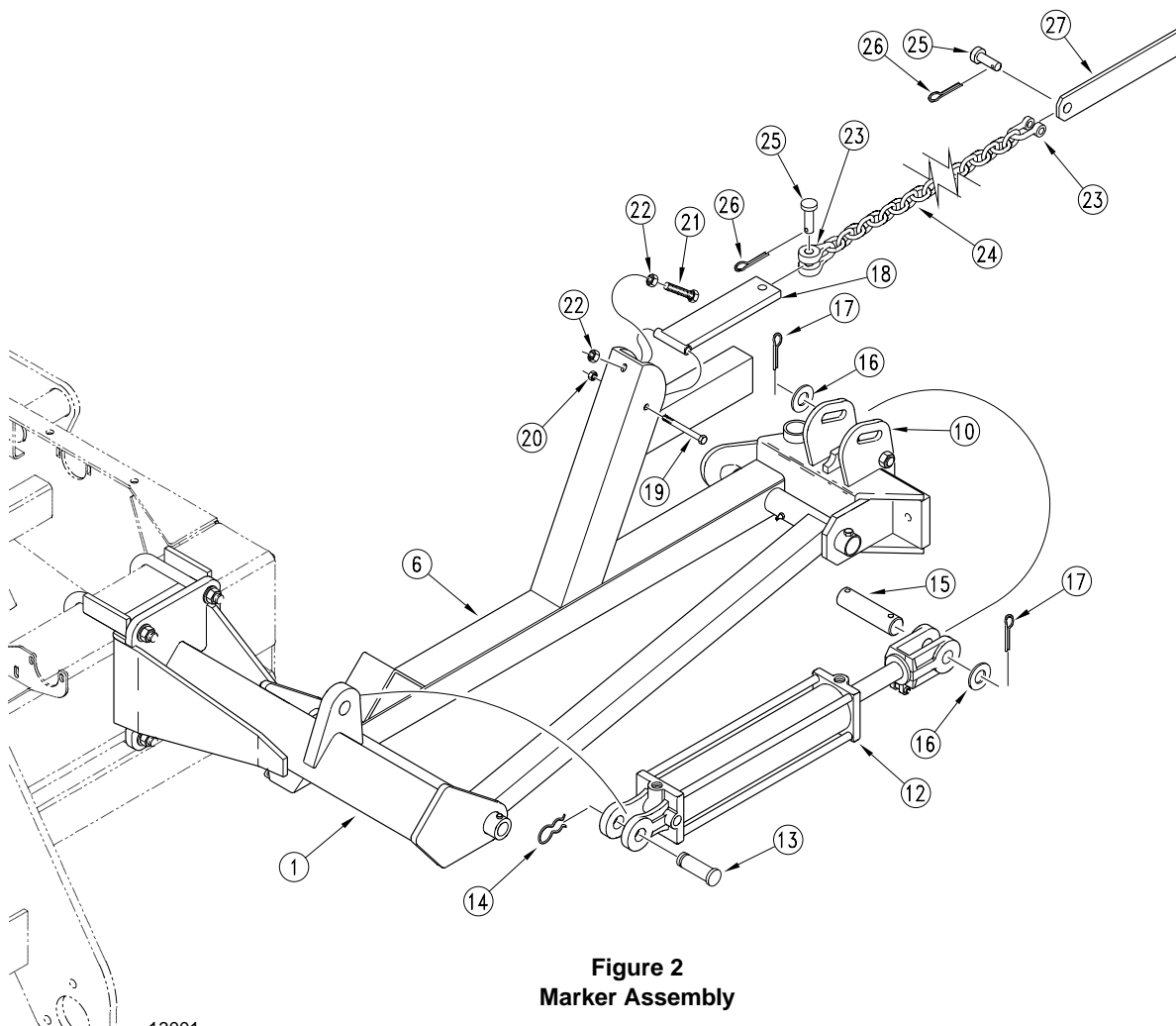


Figure 2
Marker Assembly

Assembly Instructions

Refer to Figure 1.

8. Attach the second section (28) to the breakaway hinge (10) with the pivot pin (29). Secure the pivot pin (29) with the bolt and lock nut (8 and 9). Complete this joint by passing the grade 5 breakaway bolt (30) through the holes in the hinge and second section. Install the lock washer (31) and nut (32) on the breakaway bolt.

IMPORTANT: The breakaway bolt (30) is a 7/16 x 2 1/4-inch, grade 5 (G.P. # 802-234C). It is identified as a grade 5 by having three marks on the head. If it breaks, replace it with an equivalent grade 5 bolt to prevent marker damage.

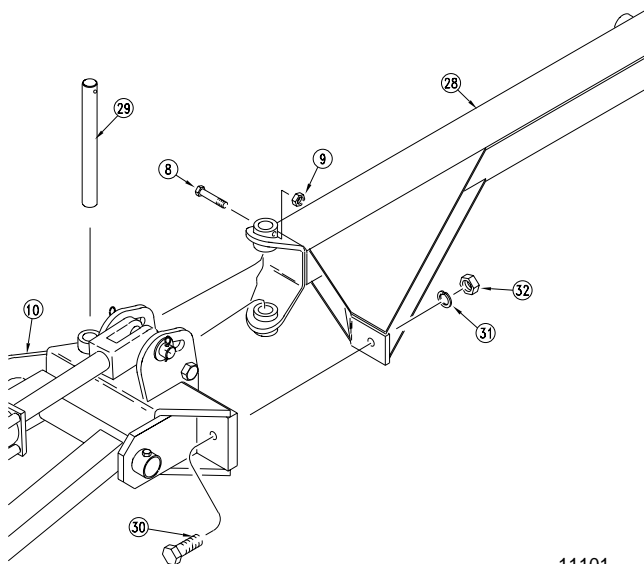


Figure 1
Attaching Second Section

Refer to Figure 1.

9. Attach the third section (33) to the second section (28) by using the pivot pin (29). Secure the pivot pin with the bolt (8) and lock nut (9).
Fasten the loose end of chain bar (27) to the ears on the

third section (33) by using the bolt (34) flat washers (35) and lock nut (36). Do not over tighten this pivot, which would cause the ears to bend in. The chain bar must pivot freely around the bolt.

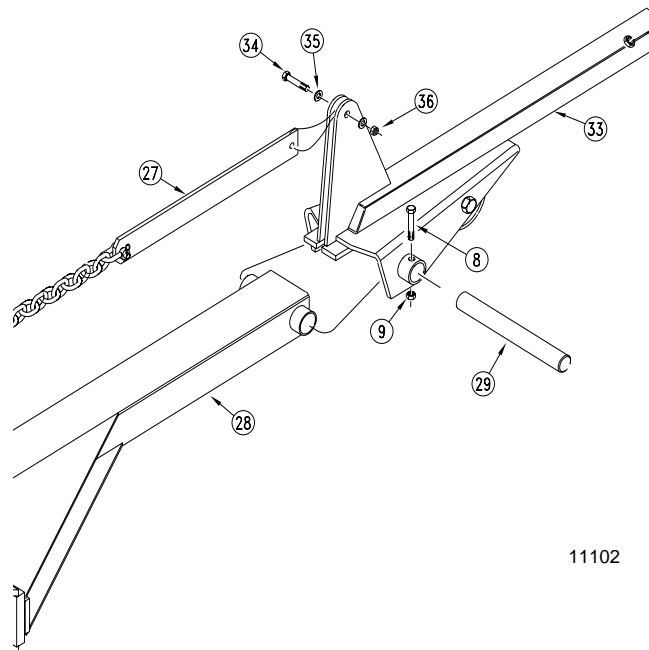


Figure 1
Attaching Third Section

Refer to Figure 1.

10. Slide the fourth-section tube (37) inside the third section (33). The holes in the fourth section must be to the outside of the drill and on the top and bottom side as shown. Thread the jam nuts (38) on the square-headed set screws (39). Thread the set screws into the nuts welded to the outer end of the third section (33). Tighten the set screws and jam nuts.
11. Slide the blade and spindle (40) over the fourth-section tube (37). Secure the spindle to the tube with bolts (41), flat washers (42), lock washers (43) and nuts (44). Tighten the two nuts.

Assembly Instructions

Refer to Figure 1.

12. Mount the transport carrier (45) to the box frame on the inside of the gauge-wheel mount. Use the mounting bracket (52) and secure it with the four 1/2 x 9 1/2-inch bolts (53), the plate (54), lock washers (55) and nuts (56).

NOTE: On 30-foot drills, you may need to reposition the optional weight brackets to make room for the transport carrier.

13. Fasten the carrier to the mount using the two u-bolts (47). Tighten the u-bolts with the lock washers (48) and nuts (49) so that the top of the carrier is about 29 3/8 inches above the top of the frame tube. You may need to re-adjust carrier height after assembly. Refer to *Transport Carrier, "Setup Adjustments,"* page 7.
14. Mount the transport saddle (50) on the top of the carrier arm (45) using the u-bolts (51), lock washers (48) and nuts (49). On 24-foot drills, position the offset in the saddle to the outside of the drill as shown.
15. To complete assembly for dual markers, repeat steps three through nine.

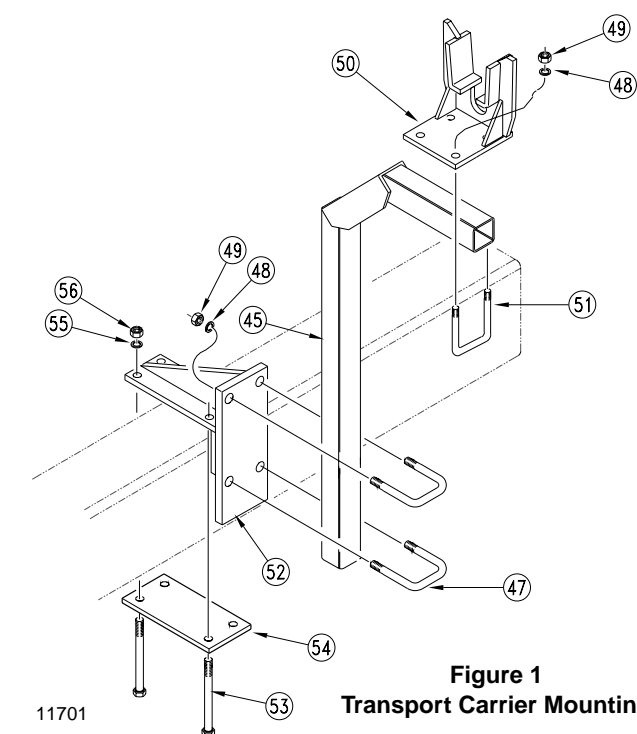


Figure 1
Transport Carrier Mounting

16. After all parts are in place, tighten all bolts and u-bolts. Refer to the torque chart in your drill operator's manual. Torque u-bolts to grade 5 values.

Single-Marker Hydraulics

IMPORTANT: JIC fittings do not require high torque. JIC and O-ring fittings do not require sealant. To avoid cracking fittings or castings from overtightening, do not use plastic sealant tape.

Refer to Figure 1.

1. Attach the 90-degree swivel elbow (1) to the rod end of the marker cylinder (2). Insert the orifice (3) in the base end of the marker cylinder (2). Attach the 90-degree swivel elbow (1) to the base end of the marker cylinder (2).
2. Uncoil and attach hose (4) to the swivel elbow at the rod end of the marker cylinder (2). Uncoil and attach hose (5) to the swivel elbow (1) at the base end of the marker cylinder (2).
3. Install the two adapters (9) and two elbow fittings (7) in the top ports (A2 and B2) of the manifold valve (8). The manifold valve is located in rear-center of the main frame.
4. Route and connect the two marker hoses (4 and 5) to the elbow fittings (7). Route hoses through the frame member cut-outs and hose clamps. Route the hoses parallel to the hoses feeding the outer gauge-wheel cylinder. See Figure 1.

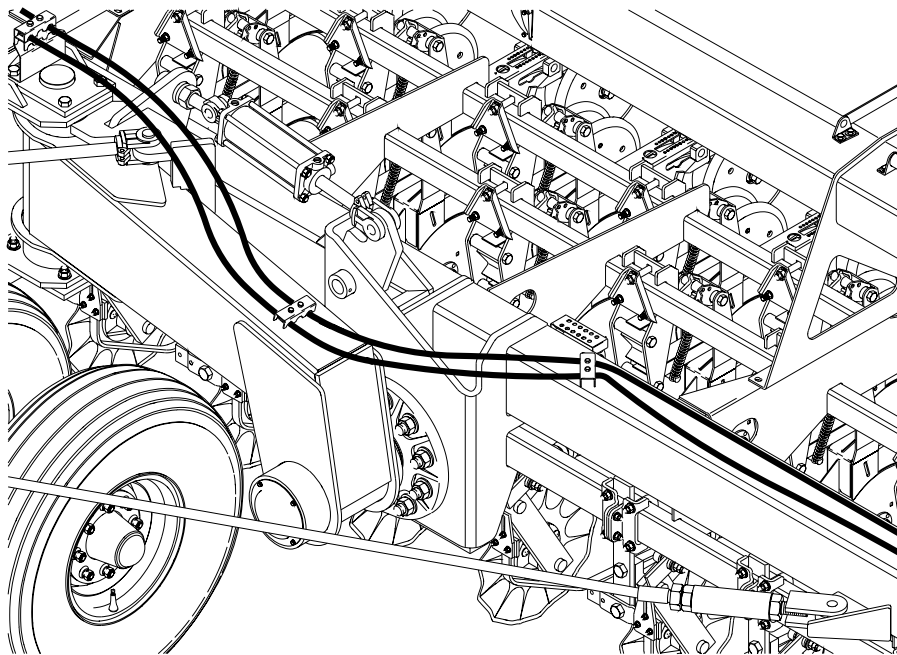


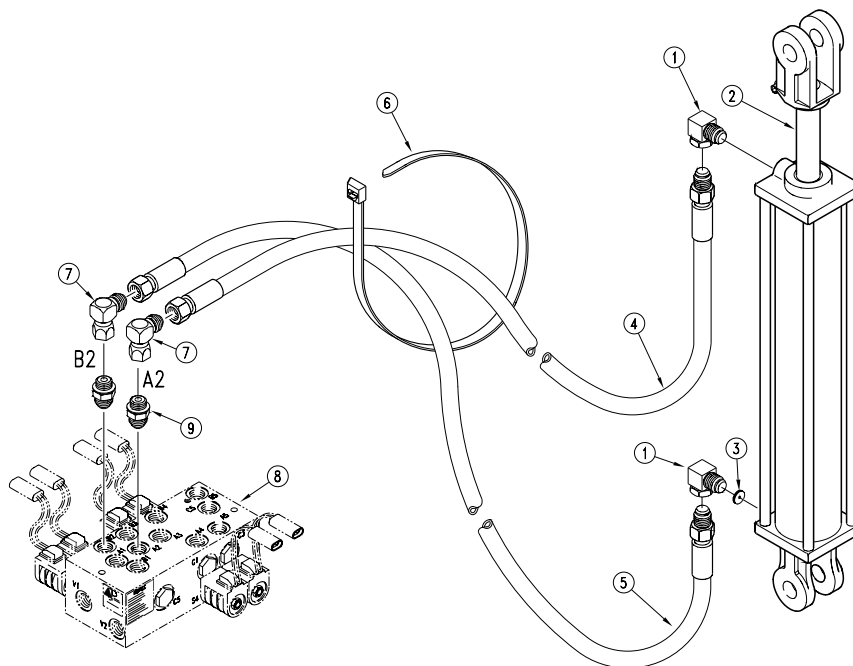
Figure 1
Hydraulic Hose Routing

Refer to Figure 1.

5. Fine tune the hose placement. Make a generous loop in both hoses near the folding hinge. This loop should be large enough to allow the outer wing to flex without the hoses pulling tight. Maintain the loops by clamping the hoses in the center hole of the existing hose clamps. Use the split rubber sleeves as bushings between the clamps and the marker hose. Use the cable ties (6) supplied with the kit to hold the hoses away from any pinch point.

IMPORTANT: Read and complete *Setup Adjustments*, page 7 before folding the markers.

Figure 1
Transport Carrier Mounting



13005

Assembly Instructions

Dual Marker Hydraulics

NOTE: JIC fittings do not require high torque. JIC and O-ring fittings do not require sealant. To avoid cracking fittings or castings from overtightening, do not use plastic sealant tape.

Refer to Figure 1.

1. Attach the 90° swivel elbows (1) to the rod end of both marker cylinders (2). Insert the orifices (7) in the base end of the marker cylinders (2). Attach the 90° swivel elbows (1) to the base end of the marker cylinders (2).
2. Uncoil and attach hoses (3 and 4) to the swivel elbows (1). Notice that the longer hoses go to the rod end of the cylinders.
3. Attach the two adapters (9) and the 90-degree elbows (6) in the manifold valve (8) at ports A2 and B2. The manifold valve is located in the rear-center of the main frame.
4. Attach the sequence valve (10) on the mounting bracket using the lock washers (11) and 3/8 x 7/8-inch bolts (12).

5. Install hydraulic hoses (13) on the sequence valve (10). Connect port A2 on the manifold valve (8) to port 2 on the sequence valve (10). Connect port B2 on the manifold valve to port 1 on the sequence valve.
6. Connect the four hoses coming from the marker cylinders to the sequence valve. Connect the base-end hoses (4) to ports R1 and R2 (10) and the rod hoses (3) to ports C1 and C2 as shown.
7. Route the hoses coming from the marker cylinders through the frame member cut-outs and hose clamps. Run the hoses parallel to the hoses feeding the outer gauge-wheel cylinder as shown in Figure 1 on page 5.
8. Fine tune the hose placement. Make a generous loop in both hoses near the box flex hinge. This loop should be large enough to allow the outer wing to flex without the hoses pulling tight. Maintain the loops by clamping the hoses in the center hole of the existing hose clamps. Use the split rubber sleeves as bushings between the clamps and the marker hose. Use the cable ties (6) supplied with the kit to hold the hoses away from any pinch point.

IMPORTANT: Read and complete *Setup Adjustments*, page 7 before folding the markers.

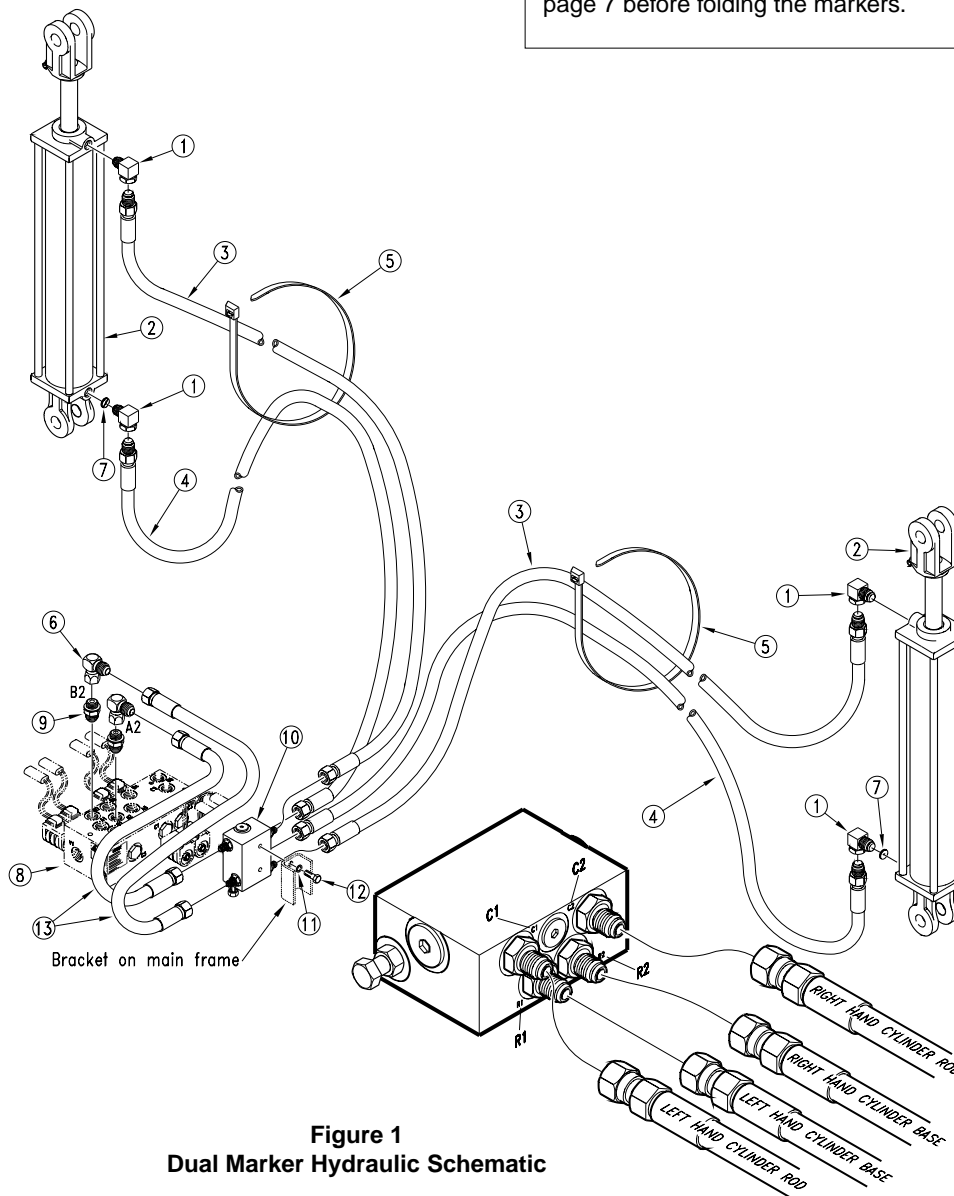


Figure 1
Dual Marker Hydraulic Schematic

14683

Setup Adjustments

1. **Storage Saddle.** When folding the marker for the first time, you may need to move the storage saddle into alignment with the second section of the marker arm. Slowly fold the marker and stop when the marker is just above the storage saddle. Adjust the bracket in or out as needed.
2. **Transport Carrier.** After centering the storage saddle and folding the marker, visually check the height of the transport carrier. The second section of the marker should appear parallel with the top of the drill box. If not, loosen the transport carrier u-bolts and adjust the carrier up or down.
3. **Marker Chain.** There are two basic adjustments needed on the marker chain, especially in new installations. They are interrelated and should be done in the following order.
 - a. **Lifting Slack.** Start with the marker in the unfolded position. Back the adjustment bolt (Figure 2, page 2, 21) down until the head extends as little as possible. Slowly fold the marker, observing the motion of the disk. If the marker disk slides across the ground more than about one foot before the chain and linkage lifts it up, the chain is too slack. Tighten the chain by moving the clevis one or two links at the inboard end of the chain. Recheck by repeating this process.
If the chain does not have enough slack when the marker is in the unfolded field position, the chain will prevent the end of the marker from dropping down to follow a depression in the field. Correct this condition by moving the utility clevis one or two links, giving the chain more slack.
 - b. **Folding Slack.** Fold the marker. Extend the adjustment bolt until the slack is out of the chain. Lock the bolt in this position by tightening the nuts on either side of the upright channel.

Bleeding Marker Hydraulics

To operate correctly, the marker hydraulics must be free of air. If not properly bled, the markers will fold in jerky, uneven motions. Follow these instructions to bleed the marker hydraulics.



CAUTION!

Never allow anyone near the drill when cycling the markers!



WARNING!

Escaping fluid under pressure can have sufficient pressure to penetrate the skin causing serious injury. Avoid the hazard by relieving pressure before disconnecting hydraulic lines. Use a piece of paper or cardboard, NOT BODY PARTS, to check for leaks. Wear protective gloves and safety glasses or goggles when working with hydraulic systems. If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene will result.

1. Be sure tractor hydraulic reservoir is full.
2. With the drill unfolded and lowered, set the switch on the control console to the left-marker position.
3. With the marker unfolded, crack the hose fitting at the base end of the left-marker cylinder. With your tractor at an idle speed, activate your hydraulic valve until oil seeps out around the hose ends. Tighten the hose-end fittings.
4. Repeat step three with the hose-end fitting at the rod end of the cylinder.
5. If dual markers are used, repeat steps three and four for the right marker cylinder.

NOTE: For dual markers, both are controlled by the left-marker switch.

6. Fold and unfold the marker(s) slowly to work all the air out of your marker hydraulics.

IMPORTANT: JIC fittings do not require high torque. JIC and O-Ring fittings do not require sealant. Always use liquid pipe sealant when adding or replacing pipe thread fittings. To avoid possible danger of cracking hydraulic fittings from over tightening, do not use plastic sealant tape.

Listing of Parts

113-498A 24-Foot No-Till Left-Hand Flat-Fold Marker

Your Kit Includes:

| Qty. | Part No. | Part Description |
|------|----------|--------------------------------|
| 1 | 113-180H | LH FIRST SECTION |
| 1 | 113-197H | MARKER CARRIER |
| 1 | 113-248D | MARKER CYLINDER PIN BODY |
| 1 | 113-311D | HINGE PIN |
| 1 | 113-312D | FIRST PIVOT SHAFT |
| 1 | 113-313D | SECOND PIVOT SHAFT |
| 1 | 113-324D | CYLINDER STOP |
| 2 | 113-325D | STOP BUSHING |
| 1 | 113-342H | NO-TILL MARKER 24' 2ND SECTION |
| 1 | 113-344H | NO-TILL MARKER 24' 3RD SECTION |
| 1 | 113-350H | NO-TILL BREAKAWAY JOINT LH |
| 1 | 113-360S | NOTILL MRKR DSK & 4BLT HUB ASY |
| 1 | 113-379D | NO-TILL 24' 4TH SECT TUBE |
| 1 | 113-381H | 2SNT L.H. MARKER MOUNT WMNT |
| 4 | 800-001C | GREASE ZERK STRAIGHT 1/4-28 |
| 2 | 801-013C | SCREW SER SQ HD 1/2-12x1 1/2 + |
| 2 | 802-042C | HHCS 1/2-13X3 3/4 GR5 |
| 3 | 802-115C | HHCS 5/16-18X2 GR5 |
| 1 | 802-201C | HHCS 1/2-13X4 3/4 GR5 |
| 1 | 802-234C | HHCS 7/16-14X2 1/4 GR5 |
| 1 | 802-260C | HHCS 1/2-13X7 GR5 |
| 3 | 803-011C | NUT LOCK 5/16-18 PLT |
| 1 | 803-015C | NUT HEX 7/16-14 PLT |
| 2 | 803-019C | NUT LOCK 1/2-13 PLT |
| 2 | 803-020C | NUT HEX 1/2-13 PLT |
| 2 | 803-036C | NUT HEX JAM 1/2-13 PLT |
| 1 | 804-014C | WASHER LOCK 7/16 PLT |
| 2 | 804-015C | WASHER LOCK SPRING 1/2 PLT |
| 4 | 804-017C | WASHER FLAT 1/2 USS PLT |
| 2 | 804-029C | WASHER FLAT 1 SAE |
| 2 | 805-058C | PIN COTTER 3/16 X 2 |
| 1 | 810-118C | CYL 2.5X20X1.12 ROD (TIE)1 PIN |
| 1 | 113-200H | CHAIN BAR WELDMENT |
| 1 | 113-311D | HINGE PIN |
| 1 | 113-316H | MARKER TRNSPT ARM MOUNT WLDMT |
| 1 | 113-323D | CHAIN BAR |
| 1 | 113-328D | 24' MARKER CHAIN |
| 1 | 113-365H | NO-TILL SADDLE REST WELDMENT |
| 1 | 113-398D | RUBBER TUBE RD 3 OD X 5 LONG |
| 1 | 113-502M | MANUAL 24 & 30 2SNT FF MARKER |
| 1 | 113-555D | MARKER MOUNT PLATE |
| 6 | 800-082C | CABLE TIE .31X21.5 6DIA 120LB |
| 1 | 802-022C | HHCS 3/8-16X1 1/2 GR5 |
| 4 | 802-048C | HHCS 1/2-13X9 1/2 GR5 |
| 1 | 802-115C | HHCS 5/16-18X2 GR5 |
| 1 | 802-168C | HHCS 3/8-16X3 1/4 GR5 |
| 1 | 802-261C | HHCS 3/8-16X2 1/2 GR5 FTHD |
| 1 | 803-011C | NUT LOCK 5/16-18 PLT |
| 4 | 803-013C | NUT LOCK 3/8-16 PLT |
| 12 | 803-020C | NUT HEX 1/2-13 PLT |
| 4 | 803-027C | NUT HEX 3/4-10 PLT |
| 2 | 804-011C | WASHER FLAT 3/8 USS PLT |
| 12 | 804-015C | WASHER LOCK SPRING 1/2 PLT |
| 4 | 804-023C | WASHER LOCK SPRING 3/4 PLT |
| 2 | 806-005C | U-BOLT 1/2-13 X 2 X 3 GR 5 |
| 2 | 806-023C | U-BOLT 1/2-13 X 2 1/32 X 3 1/4 |
| 2 | 806-037C | U-BOLT 3/4-10 X 8 1/16 X 9 1/2 |
| 1 | 811-044C | AD 3/8MNPT |
| 2 | 811-133C | AD 9/16MJIC 3/4MORB |
| 2 | 811-169C | EL 9/16MJIC 9/16FJIC |
| 2 | 811-281C | EL 3/8FNPT 9/16MORB |
| 1 | 811-347C | ORPL 1/16 9/16MORB |
| 2 | 890-018C | UTILITY CLEVIS 5/16 |
| 1 | 811-035C | HH1/4R1 252 9/16FJIC 3/8MNPT |
| 1 | 811-333C | HH1/4R1 032 9/16FJIC |
| 1 | 811-451C | HH1/4R1 212 3/8MNPT 9/16FJIC |

Listing of Parts

113-499A 24-Foot No-Till Dual Flat-Fold Markers

Your Kit Includes:

| Qty. | Part No. | Part Description |
|------|----------|--------------------------------|
| 1 | 113-180H | LH FIRST SECTION |
| 1 | 113-188H | RH FIRST SECTION |
| 2 | 113-197H | MARKER CARRIER |
| 2 | 113-248D | MARKER CYLINDER PIN BODY |
| 2 | 113-312D | FIRST PIVOT SHAFT |
| 2 | 113-313D | SECOND PIVOT SHAFT |
| 2 | 113-316H | MARKER TRNSPT ARM MOUNT WLDMT |
| 2 | 113-324D | CYLINDER STOP |
| 4 | 113-325D | STOP BUSHING |
| 2 | 113-342H | NO-TILL MARKER 24' 2ND SECTION |
| 2 | 113-344H | NO-TILL MARKER 24' 3RD SECTION |
| 1 | 113-350H | NO-TILL BREAKAWAY JOINT LH |
| 1 | 113-351H | NO-TILL BREAKAWAY JOINT RH |
| 2 | 113-360S | NOTILL MRKR DSK & 4BLT HUB ASY |
| 2 | 113-365H | NO-TILL SADDLE REST WELDMENT |
| 2 | 113-379D | NO-TILL 24' 4TH SECT TUBE |
| 1 | 113-381H | 2SNT L.H. MARKER MOUNT WMNT |
| 1 | 113-382H | 2SNT R.H. MARKER MOUNT WMNT |
| 2 | 113-398D | RUBBER TUBE RD 3 OD X 5 LONG |
| 8 | 800-001C | GREASE ZERK STRAIGHT 1/4-28 |
| 4 | 801-013C | SCREW SET SQ HD 1/2-13X1 1/2G5 |
| 2 | 802-042C | HHCS 1/2-13X3 3/4 GR5 |
| 4 | 802-115C | HHCS 5/16-18X2 GR5 |
| 2 | 802-201C | HHCS 1/2-13X4 3/4 GR5 |
| 2 | 802-234C | HHCS 7/16-14X2 1/4 GR5 |
| 2 | 802-260C | HHCS 1/2-13X7 GR5 |
| 4 | 803-011C | NUT LOCK 5/16-18 PLT |
| 2 | 803-015C | NUT HEX 7/16-14 PLT |
| 4 | 803-019C | NUT LOCK 1/2-13 PLT |
| 6 | 803-020C | NUT HEX 1/2-13 PLT |
| 4 | 803-036C | NUT HEX JAM 1/2-13 PLT |
| 2 | 804-014C | WASHER LOCK 7/16 PLT |
| 4 | 804-015C | WASHER LOCK SPRING 1/2 PLT |
| 8 | 804-017C | WASHER FLAT 1/2 USS PLT |
| 4 | 804-029C | WASHER FLAT 1 SAE |
| 4 | 805-058C | PIN COTTER 3/16 X 2 |
| 2 | 810-118C | CYL 2.5X20X1.12 ROD (TIE)1 PIN |
| 2 | 113-200H | CHAIN BAR WELDMENT |
| 4 | 113-311D | HINGE PIN |
| 2 | 113-323D | CHAIN BAR |
| 2 | 113-328D | 24' MARKER CHAIN |
| 1 | 113-502M | MANUAL 24 & 30 2SNT FF MARKER |
| 2 | 113-555D | MARKER MOUNT PLATE |
| 12 | 800-082C | CABLE TIE .31X21.5 6DIA 120LB |
| 2 | 802-022C | HHCS 3/8-16X1 1/2 GR5 |
| 8 | 802-048C | HHCS 1/2-13X9 1/2 GR5 |
| 4 | 802-115C | HHCS 5/16-18X2 GR5 |
| 2 | 802-168C | HHCS 3/8-16X3 1/4 GR5 |
| 2 | 802-261C | HHCS 3/8-16X2 1/2 GR5 FTHD |
| 2 | 802-417C | HHCS 3/8-16X7/8 GR5 |
| 4 | 803-011C | NUT LOCK 5/16-18 PLT |
| 8 | 803-013C | NUT LOCK 3/8-16 PLT |
| 24 | 803-020C | NUT HEX 1/2-13 PLT |
| 8 | 803-027C | NUT HEX 3/4-10 PLT |
| 4 | 804-011C | WASHER FLAT 3/8 USS PLT |
| 2 | 804-013C | WASHER LOCK SPRING 3/8 PLT |
| 24 | 804-015C | WASHER LOCK SPRING 1/2 PLT |
| 8 | 804-023C | WASHER LOCK SPRING 3/4 PLT |
| 4 | 806-005C | U-BOLT 1/2-13 X 2 X 3 GR 5 |
| 4 | 806-023C | U-BOLT 1/2-13 X 2 1/32 X 3 1/4 |
| 4 | 806-037C | U-BOLT 3/4-10 X 8 1/16 X 9 1/2 |
| 1 | 810-197C | VALVE,SEQUENCE SHOEMAKER |
| 2 | 811-133C | AD 9/16MJIC 3/4MORB |
| 2 | 811-169C | EL 9/16MJIC 9/16FJIC |
| 4 | 811-281C | EL 3/8FNPT 9/16MORB |
| 4 | 890-018C | UTILITY CLEVIS 5/16 |
| 2 | 811-035C | HH1/4R1 252 9/16FJIC 3/8MNPT |
| 2 | 811-333C | HH1/4R1 032 9/16FJIC |
| 2 | 811-451C | HH1/4R1 212 3/8MNPT 9/16FJIC |

Listing of Parts

113-500A 30-Foot No-Till Left-Hand Flat-Fold Marker

Your Kit Includes:

| Qty. | Part No. | Part Description |
|------|----------|--------------------------------|
| 1 | 113-180H | LH FIRST SECTION |
| 1 | 113-197H | MARKER CARRIER |
| 1 | 113-248D | MARKER CYLINDER PIN BODY |
| 1 | 113-311D | HINGE PIN |
| 1 | 113-312D | FIRST PIVOT SHAFT |
| 1 | 113-313D | SECOND PIVOT SHAFT |
| 1 | 113-324D | CYLINDER STOP |
| 2 | 113-325D | STOP BUSHING |
| 1 | 113-350H | NO-TILL BREAKAWAY JOINT LH |
| 1 | 113-360S | NOTILL MRKR DSK & 4BLT HUB ASY |
| 1 | 113-381H | 2SNT L.H. MARKER MOUNT WMNT |
| 4 | 800-001C | GREASE ZERK STRAIGHT 1/4-28 |
| 2 | 801-013C | SCREW SER SQ HD 1/2-12x1 1/2 + |
| 2 | 802-042C | HHCS 1/2-13X3 3/4 GR5 |
| 3 | 802-115C | HHCS 5/16-18X2 GR5 |
| 1 | 802-201C | HHCS 1/2-13X4 3/4 GR5 |
| 1 | 802-234C | HHCS 7/16-14X2 1/4 GR5 |
| 1 | 802-260C | HHCS 1/2-13X7 GR5 |
| 3 | 803-011C | NUT LOCK 5/16-18 PLT |
| 1 | 803-015C | NUT HEX 7/16-14 PLT |
| 2 | 803-019C | NUT LOCK 1/2-13 PLT |
| 2 | 803-020C | NUT HEX 1/2-13 PLT |
| 2 | 803-036C | NUT HEX JAM 1/2-13 PLT |
| 1 | 804-014C | WASHER LOCK 7/16 PLT |
| 2 | 804-015C | WASHER LOCK SPRING 1/2 PLT |
| 4 | 804-017C | WASHER FLAT 1/2 USS PLT |
| 2 | 804-029C | WASHER FLAT 1 SAE |
| 2 | 805-058C | PIN COTTER 3/16 X 2 |
| 1 | 810-118C | CYL 2.5X20X1.12 ROD (TIE)1 PIN |
| 1 | 113-200H | CHAIN BAR WELDMNT |
| 1 | 113-311D | HINGE PIN |
| 1 | 113-316H | MARKER TRNSPT ARM MOUNT WLDMT |
| 1 | 113-323D | CHAIN BAR |
| 1 | 113-365H | NO-TILL SADDLE REST WELDMNT |
| 1 | 113-398D | RUBBER TUBE RD 3 OD X 5 LONG |
| 1 | 113-502M | MANUAL 24 & 30 2SNT FF MARKER |
| 1 | 113-555D | MARKER MOUNT PLATE |
| 6 | 800-082C | CABLE TIE .31X21.5 6DIA 120LB |
| 1 | 802-022C | HHCS 3/8-16X1 1/2 GR5 |
| 4 | 802-048C | HHCS 1/2-13X9 1/2 GR5 |
| 1 | 802-115C | HHCS 5/16-18X2 GR5 |
| 1 | 802-168C | HHCS 3/8-16X3 1/4 GR5 |
| 1 | 802-261C | HHCS 3/8-16X2 1/2 GR5 FTHD |
| 1 | 803-011C | NUT LOCK 5/16-18 PLT |
| 4 | 803-013C | NUT LOCK 3/8-16 PLT |
| 12 | 803-020C | NUT HEX 1/2-13 PLT |
| 4 | 803-027C | NUT HEX 3/4-10 PLT |
| 2 | 804-011C | WASHER FLAT 3/8 USS PLT |
| 12 | 804-015C | WASHER LOCK SPRING 1/2 PLT |
| 4 | 804-023C | WASHER LOCK SPRING 3/4 PLT |
| 2 | 806-005C | U-BOLT 1/2-13 X 2 X 3 GR 5 |
| 2 | 806-023C | U-BOLT 1/2-13 X 2 1/32 X 3 1/4 |
| 2 | 806-037C | U-BOLT 3/4-10 X 8 1/16 X 9 1/2 |
| 1 | 811-044C | AD 3/8MNPT |
| 2 | 811-133C | AD 9/16MJIC 3/4MORB |
| 2 | 811-169C | EL 9/16MJIC 9/16FJIC |
| 2 | 811-281C | EL 3/8FNPT 9/16MORB |
| 1 | 811-347C | ORPL 1/16 9/16MORB |
| 2 | 890-018C | UTILITY CLEVIS 5/16 |
| 1 | 811-035C | HH1/4R1 252 9/16FJIC 3/8MNPT |
| 1 | 811-333C | HH1/4R1 032 9/16FJIC |
| 1 | 113-341H | NO-TILL MARKER 30' 2ND SECTION |
| 1 | 113-343H | NO-TILL MARKER 30' 3RD SECTION |
| 1 | 113-378D | NO-TILL 30' 4TH SECT TUBE |
| 1 | 113-319D | MARKER CHAIN 30' |
| 4 | 804-017C | WASHER FLAT 1/2 USS PLT |
| 1 | 811-014C | HH1/4R1 288 9/16FJIC 3/8MNPT |

Listing of Parts

113-501A 30-Foot No-Till Dual Flat-Fold Marker

Your Kit Includes:

| Qty. | Part No. | Part Description |
|------|----------|--------------------------------|
| 1 | 113-180H | LH FIRST SECTION |
| 1 | 113-188H | RH FIRST SECTION |
| 2 | 113-197H | MARKER CARRIER |
| 2 | 113-248D | MARKER CYLINDER PIN BODY |
| 2 | 113-312D | FIRST PIVOT SHAFT |
| 2 | 113-313D | SECOND PIVOT SHAFT |
| 2 | 113-316H | MARKER TRNSPT ARM MOUNT WLDMT |
| 2 | 113-324D | CYLINDER STOP |
| 4 | 113-325D | STOP BUSHING |
| 1 | 113-350H | NO-TILL BREAKAWAY JOINT LH |
| 1 | 113-351H | NO-TILL BREAKAWAY JOINT RH |
| 2 | 113-360S | NOTILL MRKR DSK & 4BLT HUB ASY |
| 2 | 113-365H | NO-TILL SADDLE REST WELDMENT |
| 1 | 113-381H | 2SNT L.H. MARKER MOUNT WMNT |
| 1 | 113-382H | 2SNT R.H. MARKER MOUNT WMNT |
| 2 | 113-398D | RUBBER TUBE RD 3 OD X 5 LONG |
| 8 | 800-001C | GREASE ZERK STRAIGHT 1/4-28 |
| 4 | 801-013C | SCREW SET SQ HD 1/2-13X1 1/2G5 |
| 2 | 802-042C | HHCS 1/2-13X3 3/4 GR5 |
| 4 | 802-115C | HHCS 5/16-18X2 GR5 |
| 2 | 802-201C | HHCS 1/2-13X4 3/4 GR5 |
| 2 | 802-234C | HHCS 7/16-14X2 1/4 GR5 |
| 2 | 802-260C | HHCS 1/2-13X7 GR5 |
| 4 | 803-011C | NUT LOCK 5/16-18 PLT |
| 2 | 803-015C | NUT HEX 7/16-14 PLT |
| 4 | 803-019C | NUT LOCK 1/2-13 PLT |
| 2 | 803-020C | NUT HEX 1/2-13 PLT |
| 4 | 803-036C | NUT HEX JAM 1/2-13 PLT |
| 2 | 804-014C | WASHER LOCK 7/16 PLT |
| 4 | 804-015C | WASHER LOCK SPRING 1/2 PLT |
| 8 | 804-017C | WASHER FLAT 1/2 USS PLT |
| 4 | 804-029C | WASHER FLAT 1 SAE |
| 4 | 805-058C | PIN COTTER 3/16 X 2 |
| 2 | 810-118C | CYL 2.5X20X1.12 ROD (TIE)1 PIN |
| 2 | 113-200H | CHAIN BAR WELDMENT |
| 4 | 113-311D | HINGE PIN |
| 2 | 113-323D | CHAIN BAR |
| 1 | 113-502M | MANUAL 24 & 30 2SNT FF MARKER |
| 2 | 113-555D | MARKER MOUNT PLATE |
| 12 | 800-082C | CABLE TIE .31X21.5 6DIA 120LB |
| 2 | 802-022C | HHCS 3/8-16X1 1/2 GR5 |
| 8 | 802-048C | HHCS 1/2-13X9 1/2 GR5 |
| 4 | 802-115C | HHCS 5/16-18X2 GR5 |
| 2 | 802-168C | HHCS 3/8-16X3 1/4 GR5 |
| 2 | 802-261C | HHCS 3/8-16X2 1/2 GR5 FTHD |
| 2 | 802-417C | HHCS 3/8-16X7/8 GR5 |
| 4 | 803-011C | NUT LOCK 5/16-18 PLT |
| 8 | 803-013C | NUT LOCK 3/8-16 PLT |
| 24 | 803-020C | NUT HEX 1/2-13 PLT |
| 8 | 803-027C | NUT HEX 3/4-10 PLT |
| 4 | 804-011C | WASHER FLAT 3/8 USS PLT |
| 2 | 804-013C | WASHER LOCK SPRING 3/8 PLT |
| 24 | 804-015C | WASHER LOCK SPRING 1/2 PLT |
| 8 | 804-023C | WASHER LOCK SPRING 3/4 PLT |
| 4 | 806-005C | U-BOLT 1/2-13 X 2 X 3 GR 5 |
| 4 | 806-023C | U-BOLT 1/2-13 X 2 1/32 X 3 1/4 |
| 4 | 806-037C | U-BOLT 3/4-10 X 8 1/16 X 9 1/2 |
| 1 | 810-197C | VALVE,SEQUENCE SHOEMAKER |
| 2 | 811-133C | AD 9/16MJIC 3/4MORB |
| 2 | 811-169C | EL 9/16MJIC 9/16FJIC |
| 4 | 811-281C | EL 3/8FNPT 9/16MORB |
| 4 | 890-018C | UTILITY CLEVIS 5/16 |
| 2 | 811-035C | HH1/4R1 252 9/16FJIC 3/8MNPT |
| 2 | 811-333C | HH1/4R1 032 9/16FJIC |
| 2 | 113-341H | NO-TILL MARKER 30' 2ND SECTION |
| 2 | 113-343H | NO-TILL MARKER 30' 3RD SECTION |
| 2 | 113-378D | NO-TILL 30' 4TH SECT TUBE |
| 2 | 113-319D | MARKER CHAIN 30' |
| 8 | 804-017C | WASHER FLAT 1/2 USS PLT |
| 2 | 811-014C | HH1/4R1 288 9/16FJIC 3/8MNPT |