HINIKER

COVER CROP/INTERSEEDER TOOLBAR AND ROW UNITS

OPERATOR'S MANUAL

DO NOT USE OR OPERATE THIS EQUIPMENT UNTIL THIS MANUAL
HAS BEEN READ AND THOROUGHLY UNDERSTOOD

PART NUMBER 81007273

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INTRODUCTION

Congratulations on your purchase of a new Hiniker Cover Crop/Interseeder Toolbar and Row Units. Your selection is an indication of your awareness of the intense research, engineering, design and quality control that has produced your durable and dependable interseeding row units from Hiniker.

This manual is provided as set-up and assembly instructions, and as an aid to the operator in explaining settings and adjustments for all soil, residue and functional applications of the Hiniker toolbar and interseeding row units. Also, its operational care and maintenance requirements. Careful application of the recommended procedures contained in this manual will assure you of many years of dependable, efficient operation.

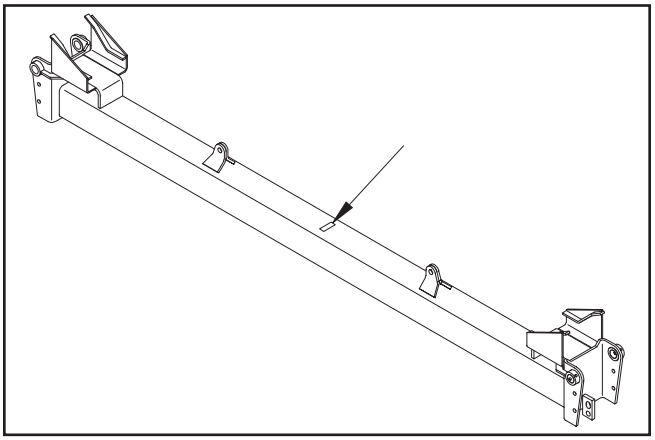
“Right hand” and “left hand” sides of your cover crop toolbar are determined by facing the direction that the toolbar travels while in use.

Always obtain original Hiniker service parts because substitute parts could adversely affect equipment performance and warranty.

A triplicate (3 copies) delivery report is to be filled out by your Hiniker Dealer when you accept this equipment. One copy is to be given to you. Do not accept this equipment until you are satisfied all items thereon have been checked, and you understand them.

Check that your dealer has forwarded the HINIKER delivery report copy, along with the machine serial number, because it helps maintain maximum service and warranty benefits. This does not put you on any mailing list and information is not available to others.

The serial number tag is located on the top center of the toolbar as indicated.



DWG NO. 7716

Record the following information for later reference when obtaining service parts:

Purchase Date_____

Purchaser’s Name_____

Dealer’s Name_____

Machine Serial No._____

SAFETY SUGGESTIONS

WARNING: Your safety and the safety of those around you depend upon your using care and good judgement in the operation of this equipment. Know the positions and functions of all controls before attempting to operate.

All equipment has limitations. Understand the speed, braking, steering, stability, and load characteristics of the machine before starting to operate. Read your OPERATOR'S MANUAL!

The following are general safety comments that apply to all equipment. Review them often as safety reminders.

- Don't be in a hurry.
- Check all controls and operating functions of the machine in a safe area before starting to work.
- Never allow anyone around machinery when you are performing operating functions.
- When service demands working on, under, or around, planting implement, proper precautions should be taken to stabilize or secure implement. (Lowering stands, blocking of implement, etc.)
- When transporting the machine, ensure all warning devices, such as, SMV sign and reflective devices are in place, clean, and clearly visible.
- Watch where you are going. Note all hazards and obstructions such as ditches, overhead electrical wires, narrow gates, etc. when transporting and/or operating the machine.
- Never unhook from folding model toolbar with the wing section in the up transport position. Lower wings to ground first then unhook.
- Never ride or permit others to ride on tractor drawbar or on machine; nor allow anyone other than yourself on the tractor while in operation.
- Reduce tractor speed when transporting over uneven or rough terrain.
- When transporting down steep hills or slopes, shift tractor into lower gear.
- Escaping hydraulic fluid under pressure can have sufficient force to penetrate the skin causing serious personal injury. Before connecting lines, be sure to relieve all pressures in the system by moving hydraulic control levers in both directions before attaching couplers.
- Before disconnecting lines, be sure to relieve all pressures to the system.
- Be sure all connections are tight and that lines, pipes, and hoses are not damaged or worn.
- A very small leak from a hydraulic line, pipe, hose, or fitting can be almost invisible. Use a piece of cardboard or wood when checking for suspected leaks rather than your hands.
- If injury is received from escaping fluid, see a doctor at once, as serious reaction or infection can result if proper medical treatment is not received immediately.
- Never operate wing lift cylinders on folding toolbar models without (4) restrictor fittings, one at each end of lift cylinder.

SPECIFICATIONS

Description	Hitch	Transport Width
6/30 Rigid 5 x 7 Toolbar Assembly	3-pt Mount Category 2-3	14’-8”
8/30 & 12/20 Rigid 5 x 7 Toolbar Assembly	3-pt Mount Category 2-3	19’-10”
8/36 Folding Toolbar Assy W/ Hydraulic Hoses	3-pt Mount Category 2-3	15’-10”
12/22 Rigid 5 x 7 Toolbar Assembly	3-pt Mount Category 2-3	21’-11”
12/30 & 16/22 Folding Toolbar Assembly W/ Hydraulic Hoses	3-pt Mount Category 2-3	17’-9”
16/20 Folding Toolbar Assembly W/ Hydraulic Hoses	3-pt Mount Category 2-3	17’-9”
16/30 & 24/20 Folding Toolbar Assembly W/ Hydraulic Hoses	3-pt Mount Category 2-3	22’-10”
18/20 Folding Toolbar Assembly W/ Hydraulic Hoses	3-pt Mount Category 2-3	18’
18/22 Folding Toolbar Assembly W/ Hydraulic Hoses	3-pt Mount Category 2-3	22’-8”
8/30 Folding Toolbar Assembly W/ Hydraulic Hoses	3-pt Mount Category 2-3	13’-1”

ASSEMBLY INSTRUCTIONS

RECOMMENDED TORQUE VALUES

The torque values given in Table 1 are valid for standard zinc coated and lubricated fasteners assembled in rigid joints.

Fasteners which are waxed or phosphate coated or cadmium coated or specially lubricated should be torqued to lubricate torque values below.

A ± 20 percent tolerance is to be used when a single value torque is specified.

PREPARING TOOLBAR AND ROW UNITS

Prior to the operation of your new Interseeder or one which has been stored, inspect all hardware and verify proper torque on all bolts and nuts in accordance with the recommended torque specifications listed on below.

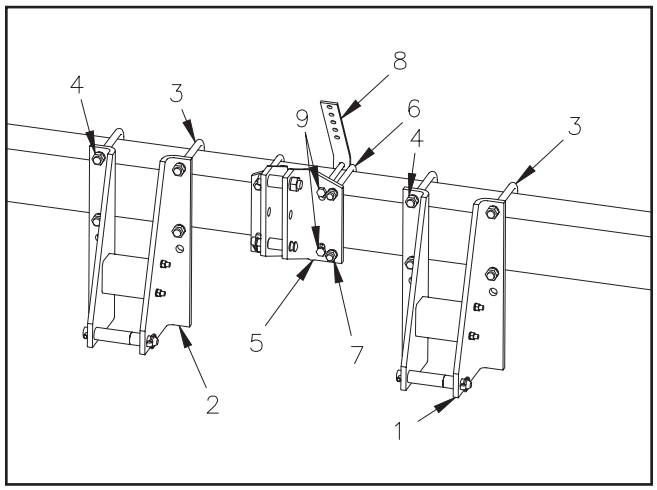
TABLE 1 - RECOMMENDED TORQUE VALUES FOR INCH FASTENERS (ZINC PLATING & LUBRICATED)**

Nominal Size	SAE 2 74 000 psi Min Tensile lb - ft		SAE 5 120 000 psi Min Tensile lb - ft		SAE 8 150 000 psi Min Tensile lb - ft	
	Dry	Lubricated	Dry	Lubricated	Dry	Lubricated
1/4-20	6	4	8	6	12	9
1/4-28	6	5	10	7	14	10
5/16-18	11	8	17	13	25	18
5/16-24	12	9	19	14	25	20
3/8-16	20	15	30	23	45	35
3/8-24	23	17	35	25	50	35
7/16-14	30	24	50	35	70	55
7/16-20	35	25	55	40	80	60
1/2-13	50	35	75	55	110	80
1/2-20	55	40	90	65	120	90
9/16-12	70	55	110	80	150	110
9/16-18	80	60	120	90	170	130
5/8-11	100	75	150	110	220	170
5/8-18	110	85	170	130	240	180
3/4-10	175	130	260	200	380	280
3/4-16	195	145	300	220	420	320
7/8-9	165	125	430	320	600	460
7/8-14	185	140	470	350	660	500
1-8	250	190	640	480	900	680
1-12	270	200	700	500	1000	740
1 1/8-7	350	270	800	600	1280	960
1 1/8-12	400	300	880	660	1440	1080
1 1/4-7	500	380	1120	840	1820	1360
1 1/4-12	550	420	1240	920	2000	1500
1 3/8-6	660	490	1460	1100	2380	1780
1 3/8-12	740	560	1680	1260	2720	2040
1 1/2-6	870	650	1940	1460	3160	2360
1 1/2-12	980	730	2200	1640	3560	2660

** MACHINE DESIGN FASTENER AND JOINT REFERENCE ISSUE.

THREE POINT HITCH INSTALLATION

Refer to DWG. 7684



DWG. NO. 7684

To install the three point hitch mount brackets, first locate the upper hitch assembly (Item 5) in the shipping bundle. The upper three point bracket assembly (Item 5) bolts to the front of the center frame tube at the centerline of the toolbar. Use the u-bolts (Items 6) that were shipped in the upper three point assembly to attach it to the toolbar. Secure the u-bolts and upper three point bracket using the nuts and lock washers (Items 7) that were shipped with the assembly.

Locate the hydraulic fitting bulkhead strap assembly (Item 8) in the shipping bundle. Fasten it to the toolbar as shown using the 5/8" x 8 1/2" bolts (Item 9) provided with the bulkhead bracket assembly. Run the bolts through the upper three point bracket (Item 5) and through the bulkhead bracket.

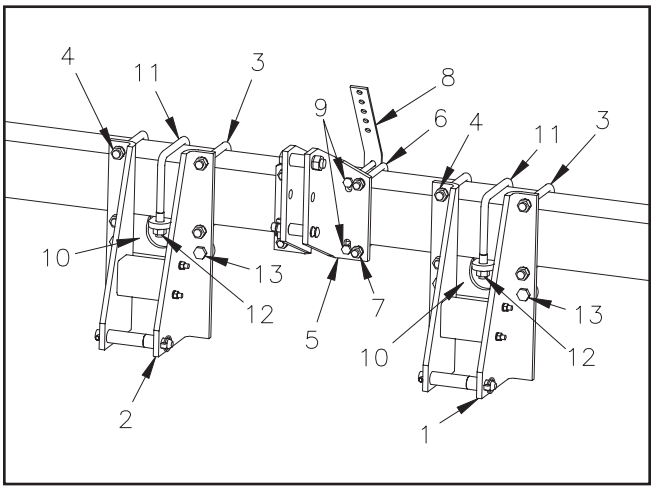
NOTE: the bent portion of the hydraulic fitting bulkhead strap should face the front of the toolbar. Use the nuts and lock washers provided to fasten it to the toolbar. Now locate the lower three point bracket assemblies (Items 1 & 2) in the shipping bundle. Refer to drawing 7697 or 7698 for the dimensions needed to locate the brackets in the proper position on the front of the toolbar.

Bolt the lower three point bracket assemblies (Items 1&2) to the toolbar using the U-bolts, nuts, and lock washers (Items 3 and 4) provided with the three point assemblies. Torque all nuts to the proper torque specification for their size by refering to the torque chart on page 4.

NOTE: The bulkhead strap (Item 8) hardware (Item 9) should "not" be torqued to the chart specifications because doing so could bend the strap.

THREE POINT HITCH INSTALLATION 16 ROW 30"

Refer to DWG. 7685



DWG. NO. 7685

To install the three point hitch mount brackets, first locate the upper hitch assembly (Item 5) in the shipping bundle. The upper three point bracket assembly (Item 5) bolts to the front of the center frame tube at the centerline of the toolbar.

Use the U-bolts (Items 6) that were shipped in the upper three point assembly to attach it to the toolbar. Secure the U-bolts and upper three point bracket using the nuts and lock washers (Items 7) that were shipped with the assembly.

Locate the hydraulic fitting bulkhead strap assembly (Item 8) in the shipping bundle. Fasten it to the toolbar as shown using the 5/8" x 8 1/2" bolts (Item 9) provided with the bulkhead bracket assembly. Run the bolts through the upper three point bracket (Item 5) and through the bulkhead bracket.

NOTE: the bent portion of the hydraulic fitting bulkhead strap should face the front of the toolbar. Use the nuts and lock washers provided to fasten it to the toolbar. Now locate the lower three point bracket assemblies (Items 1 & 2) in the shipping bundle.

Refer to drawing 7701 or 7702 for the dimensions needed to locate the brackets in the proper position on the front of the toolbar. Bolt the lower three point bracket assemblies (Items 1 & 2) to the toolbar using the U-bolts, nuts, and lock washers (Items 3 and 4) provided with the three point assemblies.

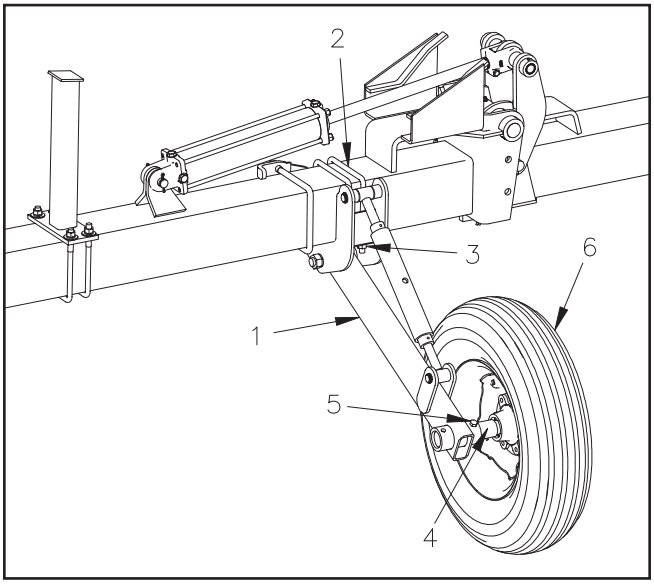
Locate the three point hitch reinforcement assemblies (Items 10) in the shipping bundle. Bolt one of them to each lower three point assembly (Items 1 & 2) as shown in the drawing. Use the U-bolts, bolts, nuts and lock washers (Items 11, 12, and 13) provided in the reinforcement assemblies to fasten the reinforcements to the toolbar and lower hitch assemblies.

Torque all nuts to the proper torque specification for their size by referring to the torque chart on page 4.

NOTE: The bulkhead strap (Item 8) hardware (Item 9) should "not" be torqued to the chart specifications because doing so could bend the strap.

GAUGE WHEEL INSTALLATION

Refer to DWG. 7686



DWG. NO. 7686

If toolbar gauge wheels were purchased with your Hiniker cover crop/interseeder they can be installed by first locating the gauge wheel arm assemblies (Item 1) in the shipping bundle. The arm assemblies are the same for both the right and left hand gauge wheels.

The spindles, hubs, and tire and wheel assemblies are mounted to opposite sides to make them right and left hand. Use the dimensions on drawings 7697 and 7698 to locate the gauge wheel assemblies.

The arm assemblies (Item 1) are bolted to the bottom and front side of the toolbar assembly as shown in the drawing. Bolt them loosely to the toolbar using the U-bolts (Items 2) and nuts and lock washers (Items 3) that were shipped with the gauge wheel arm assemblies.

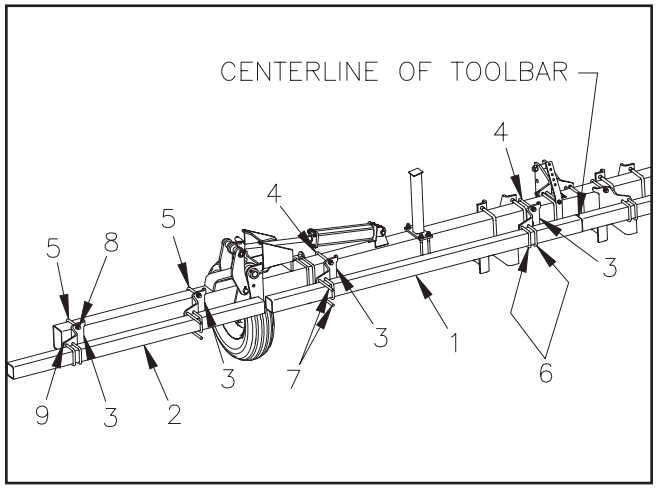
Locate the hub and spindle assemblies (Item 4) in the shipping bundle. Slide the hub and spindle assembly (Item 4) into the round tube at the bottom of the gauge wheel arm assembly (Item 1). Bolt the hub and spindle into place using the bolt and nut provided in the assembly (Item 5).

Now bolt the tire and rim assembly (Item 6) to the hub and spindle assembly using the hardware provided with the hub. Slide the gauge wheels on the toolbar so that the tire centers match the dimensions on drawings 7697 or 7698. Once located tighten the nuts (Items 3). Torque all nuts to the value for their respective size found in the torque value chart on page 4.

NOTE: the drawing shows the left hand side gauge wheel installation. The right hand is opposite.

4 X 4 REAR TUBE INSTALLATION 12 ROW 30”

Refer to DWG. 7687



DWG. NO. 7687

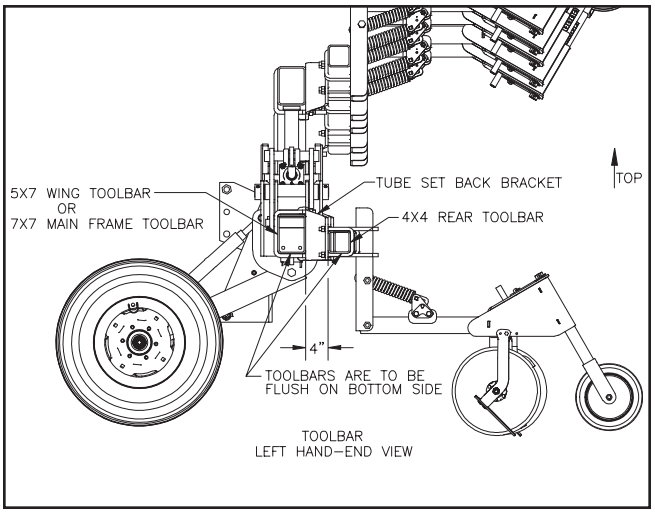
The Hiniker Cover Crop/Interseeder toolbar is designed with a secondary toolbar to which the row units get mounted. The secondary 4 x 4 toolbar allows the row units to be moved to various spacings as desired by the user without the interference with 3 point mounts, hinge components, or other components that are mounted to the primary toolbar.

To install the 4 x 4 secondary toolbar first locate the set back bracket kits in your shipping bundle. Each kit contains a right hand bracket, a left hand bracket, and the mounting hardware for each bracket.

The left hand brackets go to the left hand side of center on the rear of the toolbar and the right hand brackets to the right hand side of center on the rear of the toolbar. Refer to drawings 7697 and 7698 for the row spacing and dimensional location of the set back brackets.

The following installation instructions will refer to the left hand side of the machine. The right hand side installation will be opposite. Install the left hand set back brackets (Items 3) to the primary toolbar assembly using the 3/4” U-bolts (Items 4 and 5).

The U-bolts (Item 4) fit the 7” x 7” center frame tube and the U-bolts (Item 5) fit the 5” x 7” wing frame tube. Install the set back brackets so that the bottom of the 4x4 secondary tube is flush with the bottom of the primary toolbar tubes. Refer to DWG. 7688 for an end view of the toolbars in an installed position. Secure the set back brackets and U-bolts to the toolbar using the 3/4” nuts and lock washers (Items 8) that were provided in the set back bracket kits. In the shipping bundle locate the 4x4 tube bundle.



DWG. NO. 7688

This bundle will contain two long (100”) 4 x 4 tubes and two shorter (81”) 4x4 tubes. The two 100” long tubes attach to the center frame and the two 81” long tubes attach to the wing frame. Attach one 100” 4 x 4 tube (Item 1) to the center frame set back brackets (Items 3) using the 5/8” U-bolts provided for the 4 x 4 tube (Items 6).

Use the 5/8” nuts and lock washers (Items 9) provided in the set back bracket kits to secure the U-bolts and 4 x 4 tubes to the set back brackets. The inside end of the 100” centerframe 4 x 4 tube should be positioned starting at the centerline of the center frame primary toolbar.

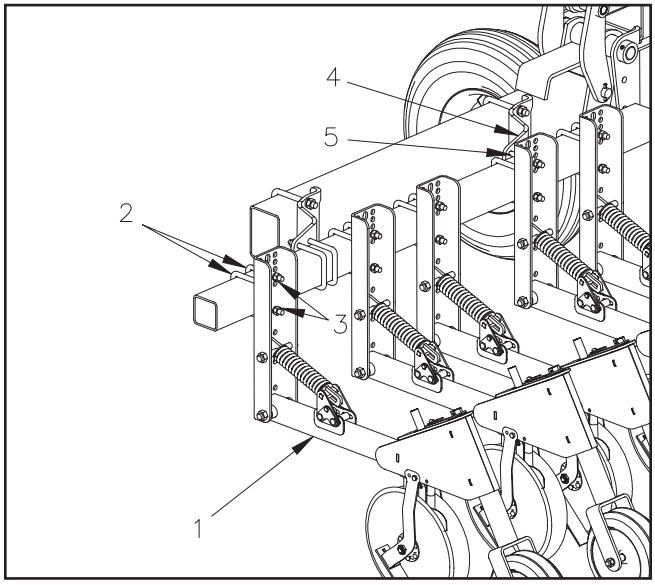
In some instances depending on the row spacing that is desired a row unit may interfere with a U-bolt (Item 6) placement. If this situation occurs straight 5/8” bolts are provided in the set back bracket kits. The bolts then pass through the set back bracket and into the row unit mount channel to secure the 4 x 4 tube and row unit. Refer to drawings 7697 and 7698 for examples of the row spacings and when these alternate bolts are used.

Bolt the 81” long 4 x 4 tube (Item 2) to the wing set back brackets using the 5/8” U-bolts, nuts and lock washers provided (Item 9). Position the wing 4 x 4 tube so that the inside end of it is 2” from the outside end of the center frame 4 x 4 tube. Refer to drawings 7697 and 7698 for this dimension.

Repeat the 4 x 4 rear tube installation procedure for the right hand side of the toolbar. Once all of the rear 4 x 4 tubes have been installed torque each of the nuts to the torque value specified for its particular size as found in the torque specification chart found on page 4.

ROW UNIT INSTALLATION

Refer to DWG. 7689



DWG. NO. 7689

The Hiniker Cover Crop/Interseeder row unit comes completely assembled and ready to install on the toolbar. The row units mount to the rear 4 x 4 toolbar on the toolbar assembly. Refer to the diagrams in drawings 7697 and 7698 for row unit spacing dimensions. Drawings 7697 and 7698 depict 10” and 12” row unit spacings for 30” row center crops. These dimensions are examples of how to mount the row units. Other row unit spacings are possible within the 30” row spacing format simply by sliding the row units to the desired position.

To mount the row units (Item 1) to the 4 x 4 rear toolbar use the two 5/8” U-bolts, nuts, and lock washers (Items 2 & 3) provided with each row unit assembly. In some cases a row unit may interfere with the U-bolt that mounts the 4 x 4 tube to the set back bracket (Item 4). If this situation exists, 5/8” straight bolts (Item 5) are provided in the set bracket kits to mount the row unit. Pass the 5/8” bolts (Item 5) through the set back bracket and into the row unit mount channel holes and use the nuts and lock washers (Item 3) that were shipped on the 5/8” U-bolts in the row unit assembly to secure the row unit.

Once positioned tighten all the row units to the torque specifications for a 5/8” size found in the torque chart on page 4.

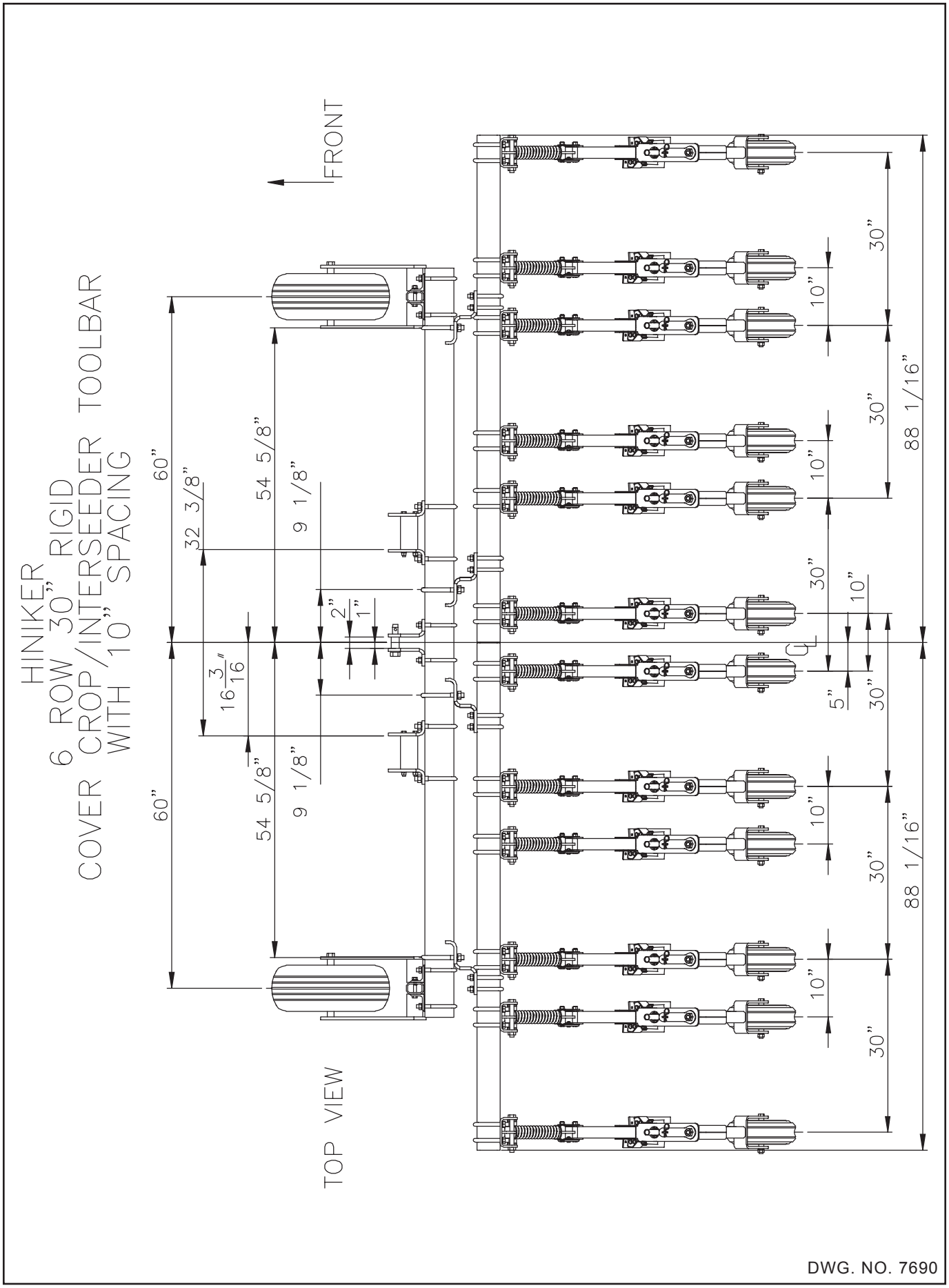
ASSEMBLY DIAGRAMS
6 ROW THROUGH 24 ROW 20

The assembly diagrams on the following pages provide dimensions and locations for:

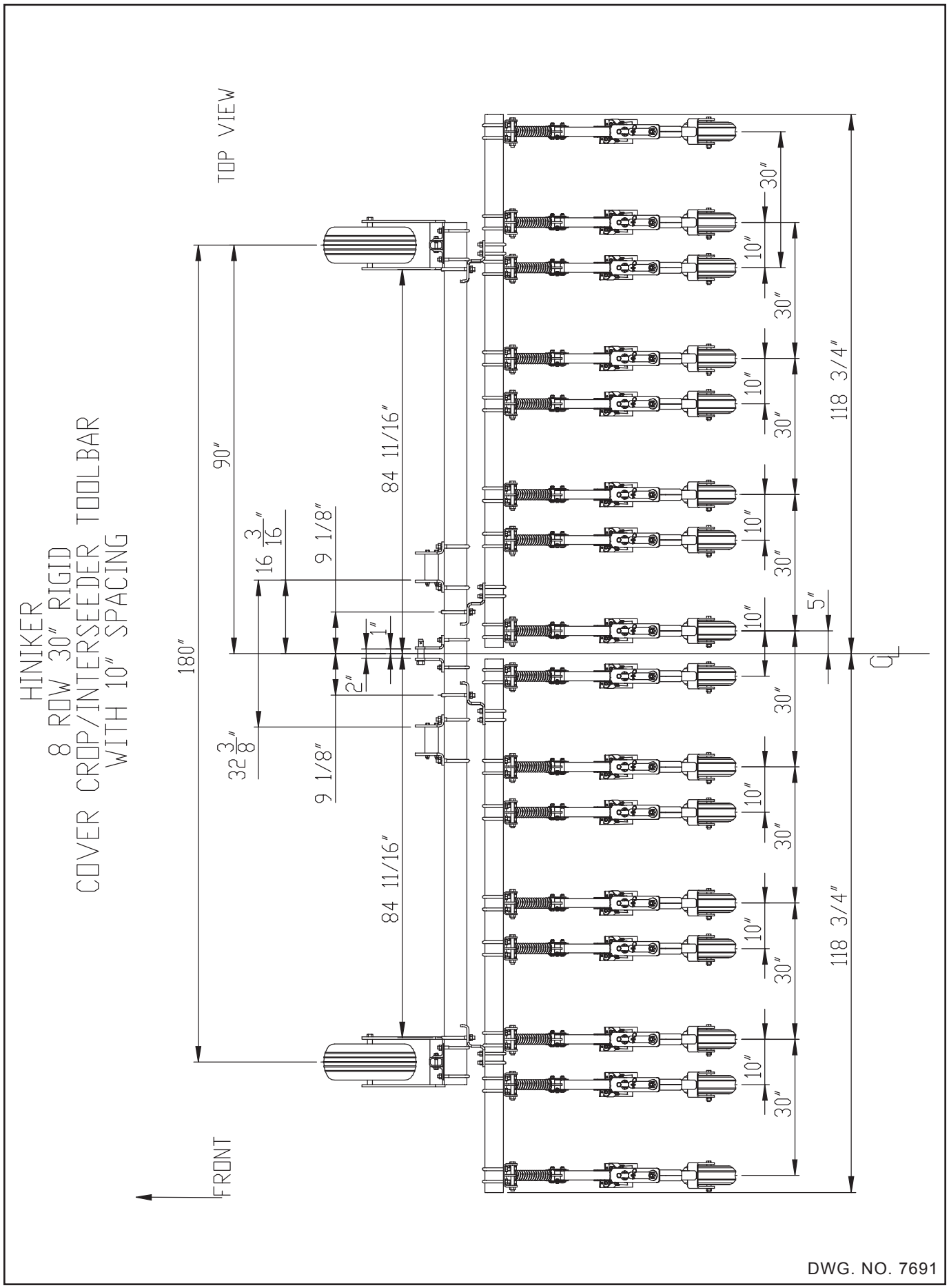
1. Row unit spacing dimensions for 20, 22, 30, and 36 inch rows (See description on top of diagrams).

2. Hitch locations and mounting dimension.

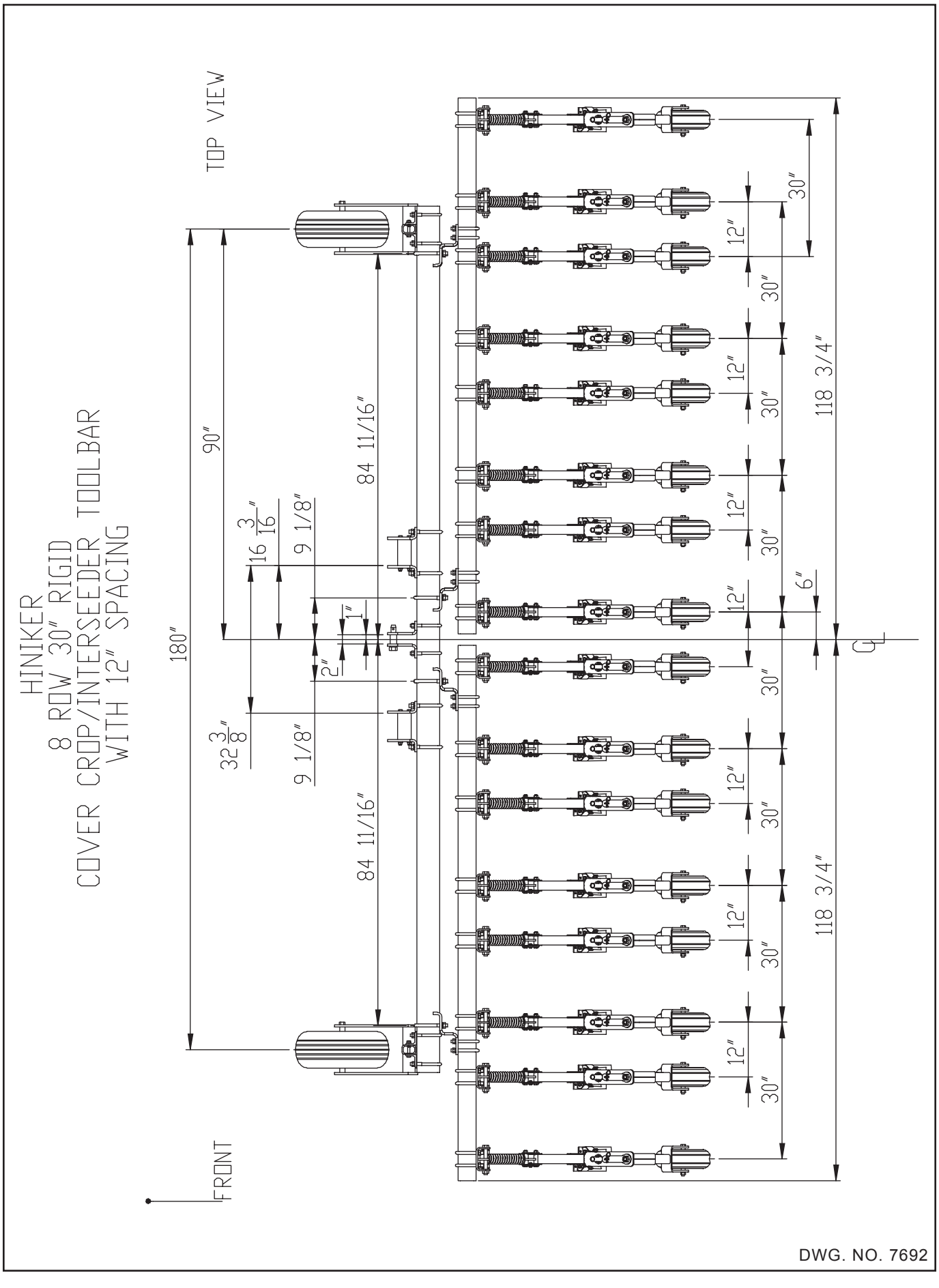
3. Location of gauge wheels.


HINIKER
6 ROW 30" RIGID
COVER CROP/INTERSEEDER TOOLBAR
WITH 10" SPACING
FRONT
TOP VIEW
60"
32 3/8"
54 5/8"
9 1/8"
2"
1"
16 3/16"
30"
10"
5"
88 1/16"
℄

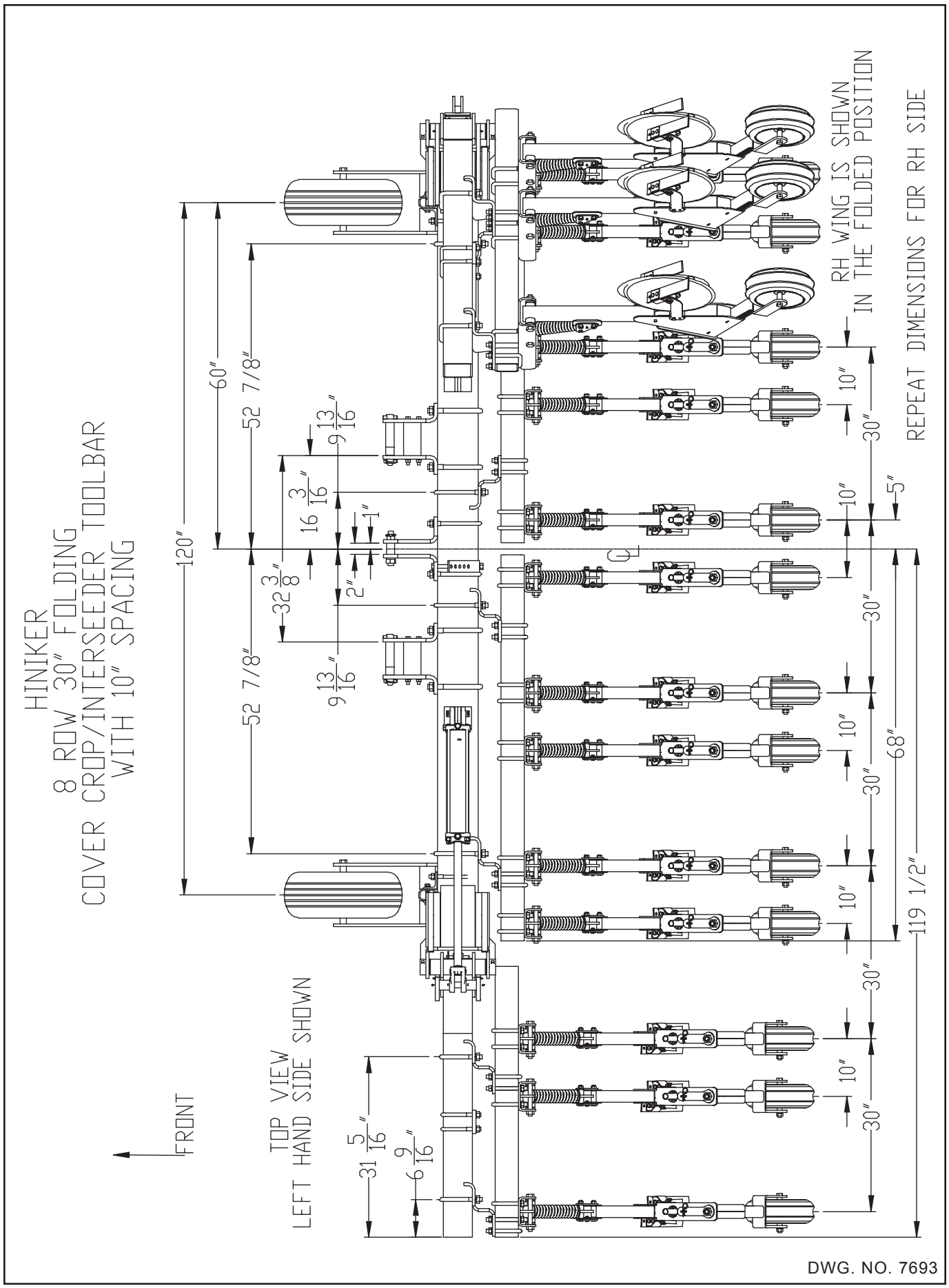
DWG. NO. 7690

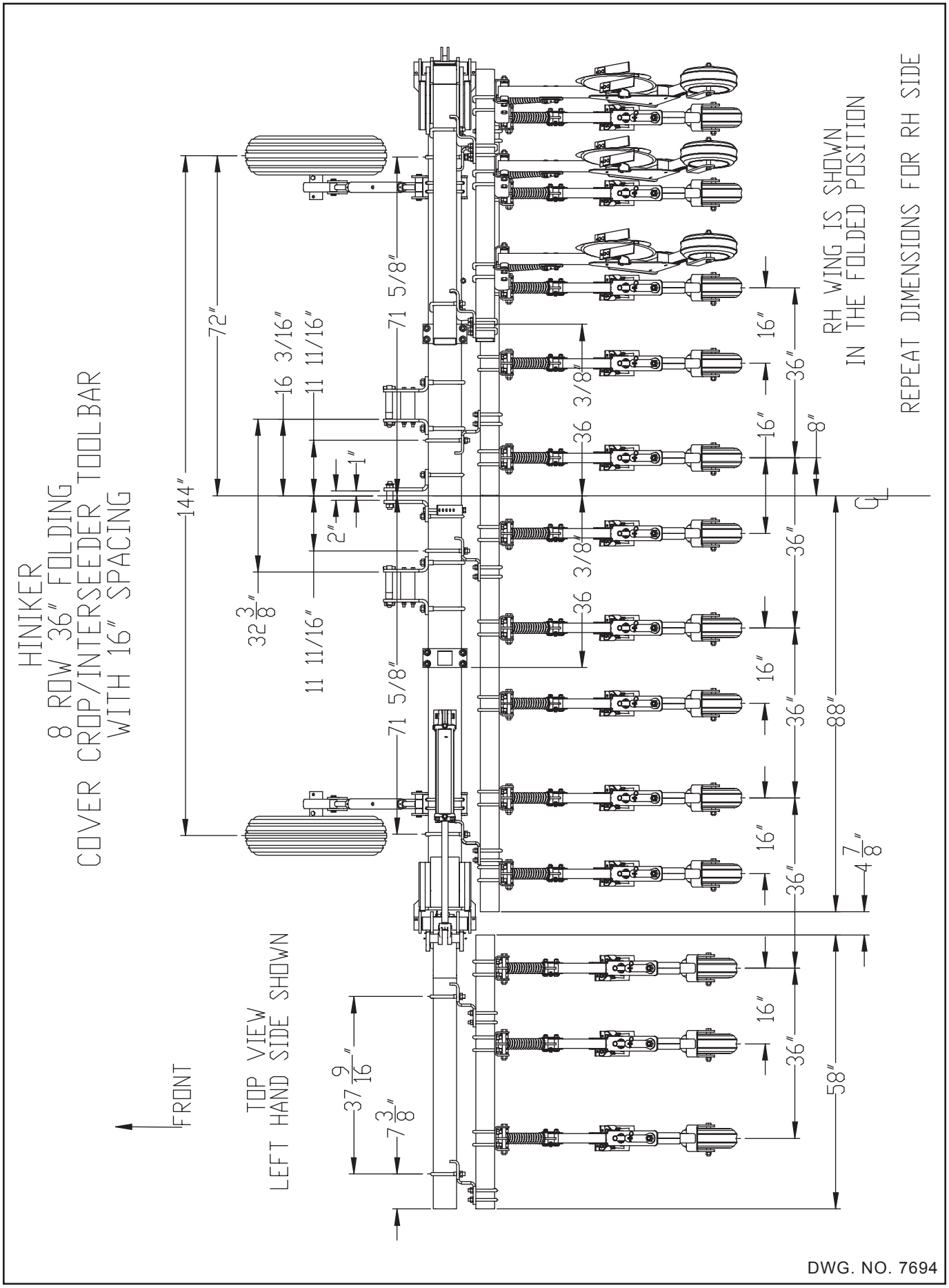

HINIKER
8 ROW 30" RIGID
COVER CROP/INTERSEEDER TOOLBAR
WITH 10" SPACING
TOP VIEW
FRONT
180"
90"
84 11/16"
84 11/16"
16 3/16"
9 1/8"
9 1/8"
32 3/8"
2"
1"
5"
CL
118 3/4"
118 3/4"
30"
10"

DWG. NO. 7691

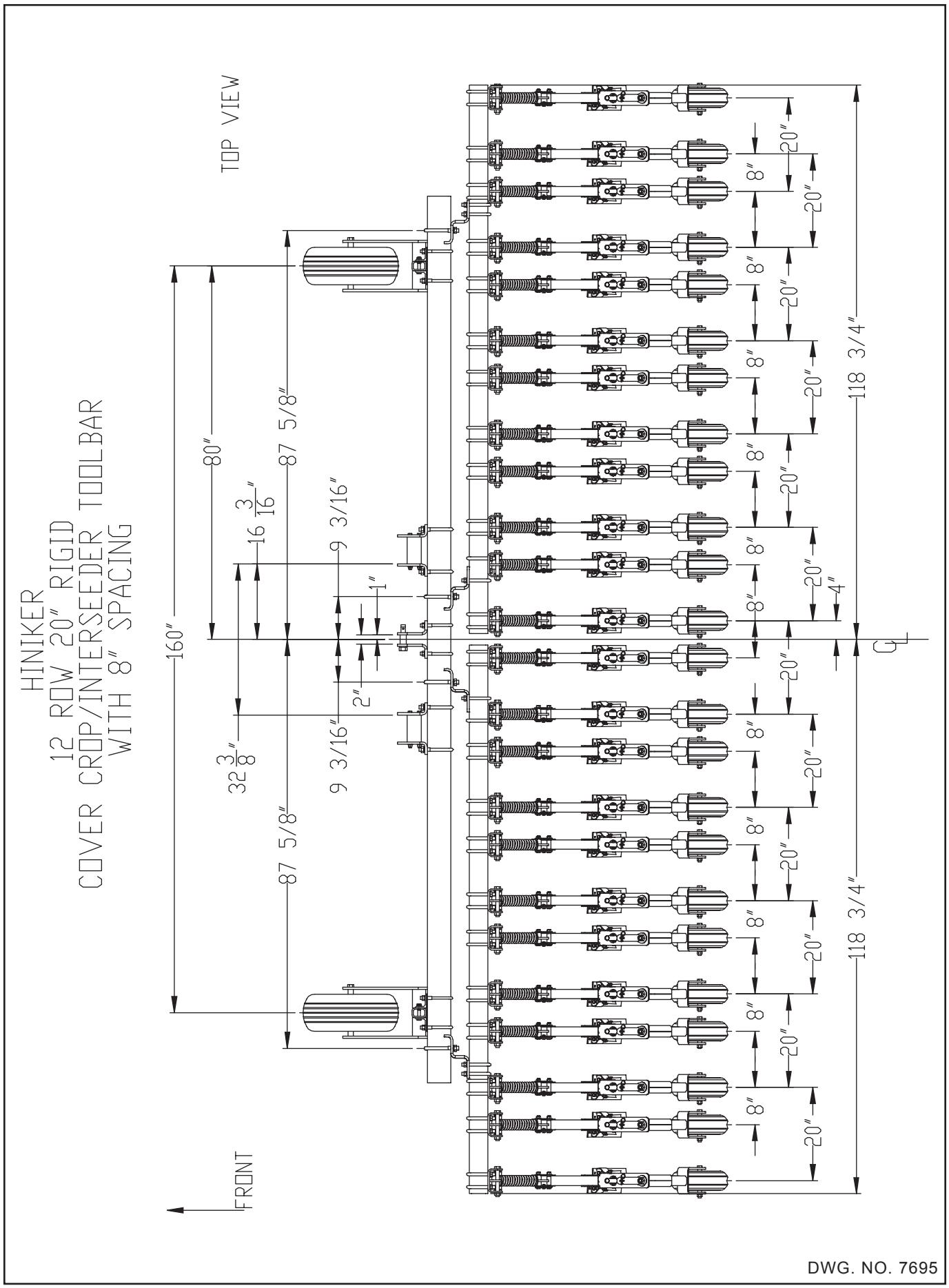

HINIKER
8 ROW 30" RIGID
COVER CROP/INTERSEEDER TOOLBAR
WITH 12" SPACING
TOP VIEW
FRONT
180"
90"
84 11/16"
84 11/16"
16 3/16"
9 1/8"
9 1/8"
32 3/8"
2"
1"
6"
12"
30"
118 3/4"
118 3/4"
CL

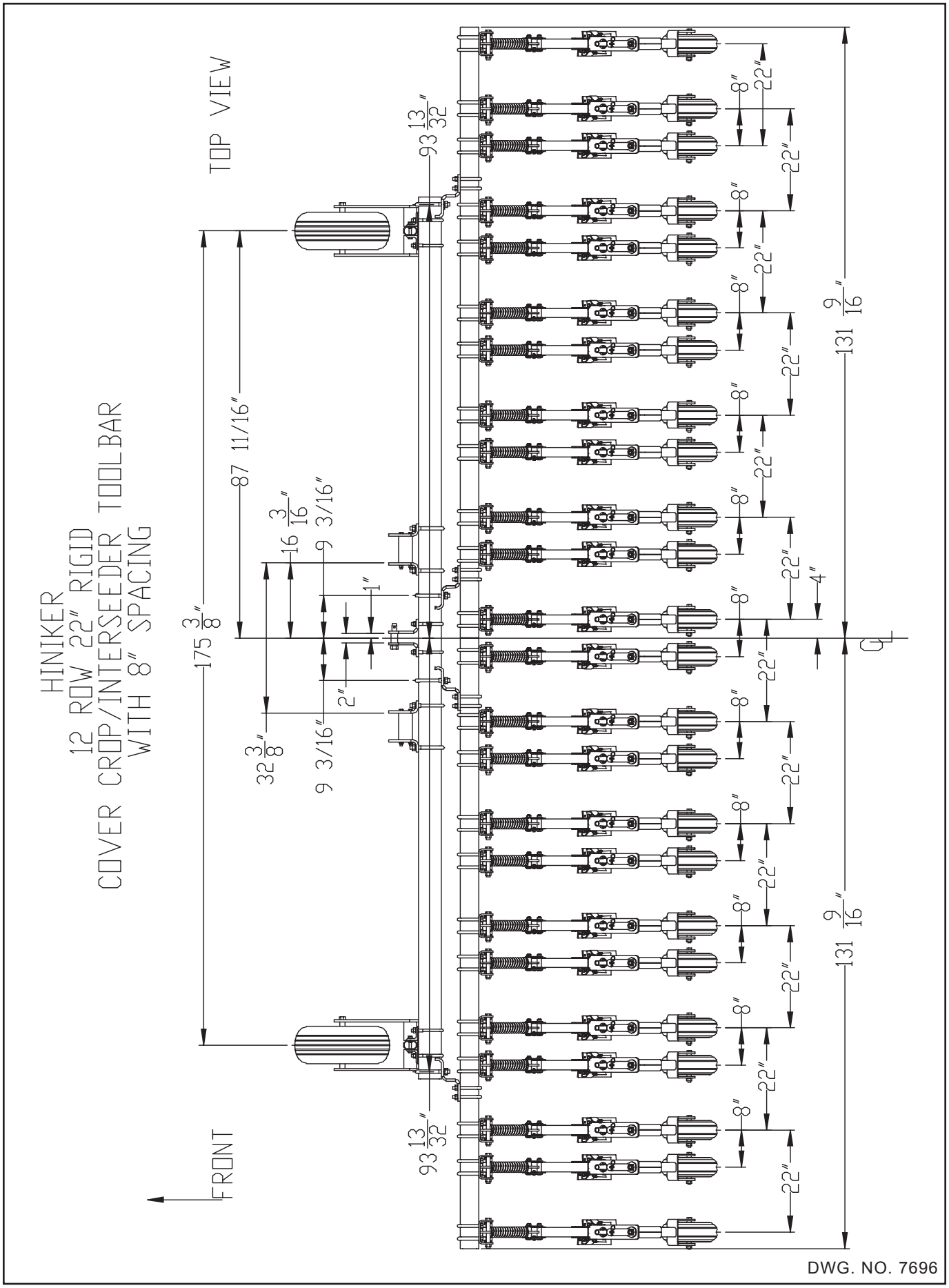
DWG. NO. 7692

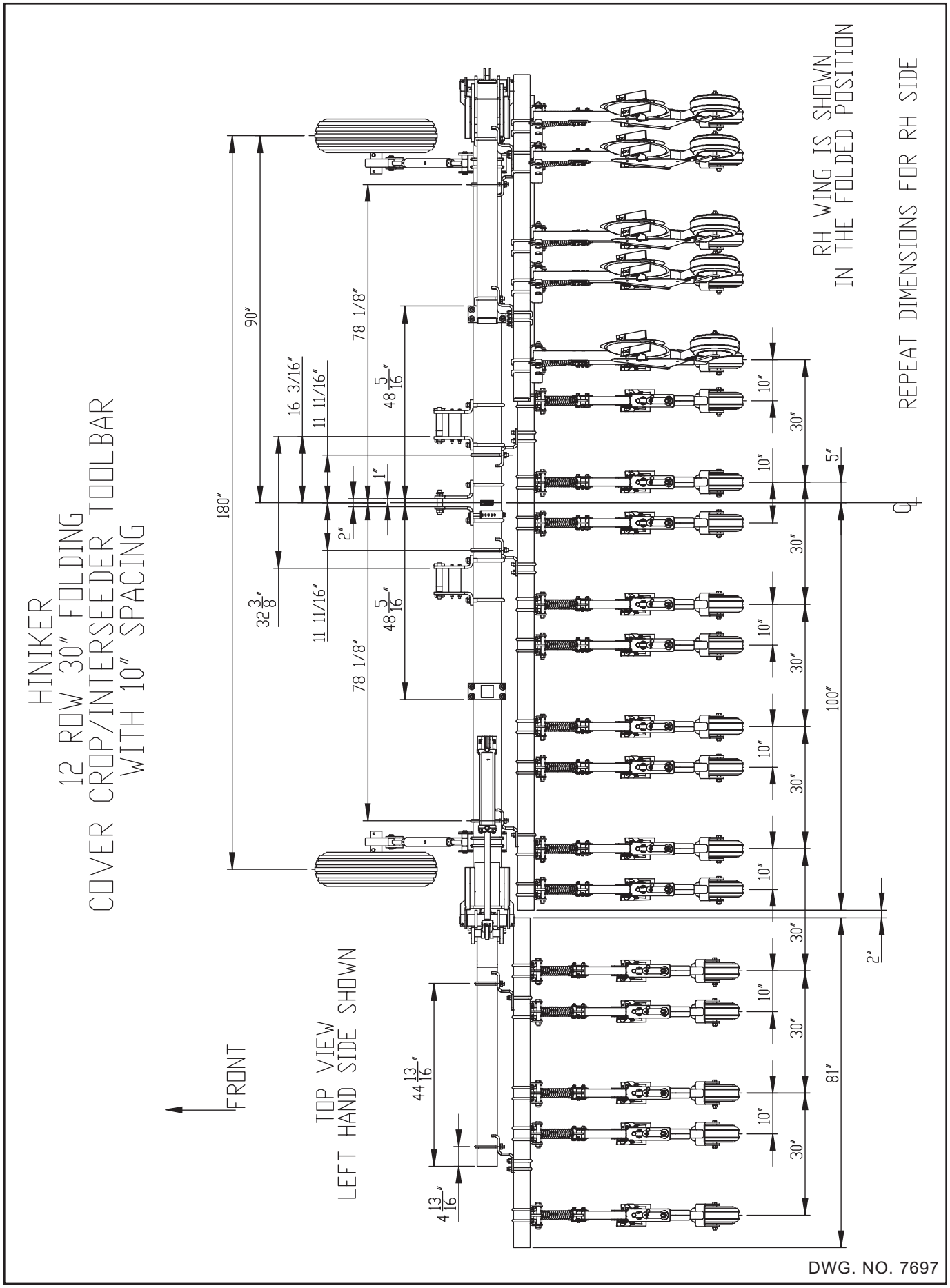

HINIKER
8 ROW 30" FOLDING
COVER CROP/INTERSEEDER TOOLBAR
WITH 10" SPACING
TOP VIEW
LEFT HAND SIDE SHOWN
FRONT
RH WING IS SHOWN
IN THE FOLDED POSITION
REPEAT DIMENSIONS FOR RH SIDE
120"
60"
52 7/8"
52 7/8"
9 13/16"
9 13/16"
16 3/16"
32 3/8"
1"
2"
5"
10"
30"
68"
119 1/2"
31 5/16"
6 9/16"
DWG. NO. 7693

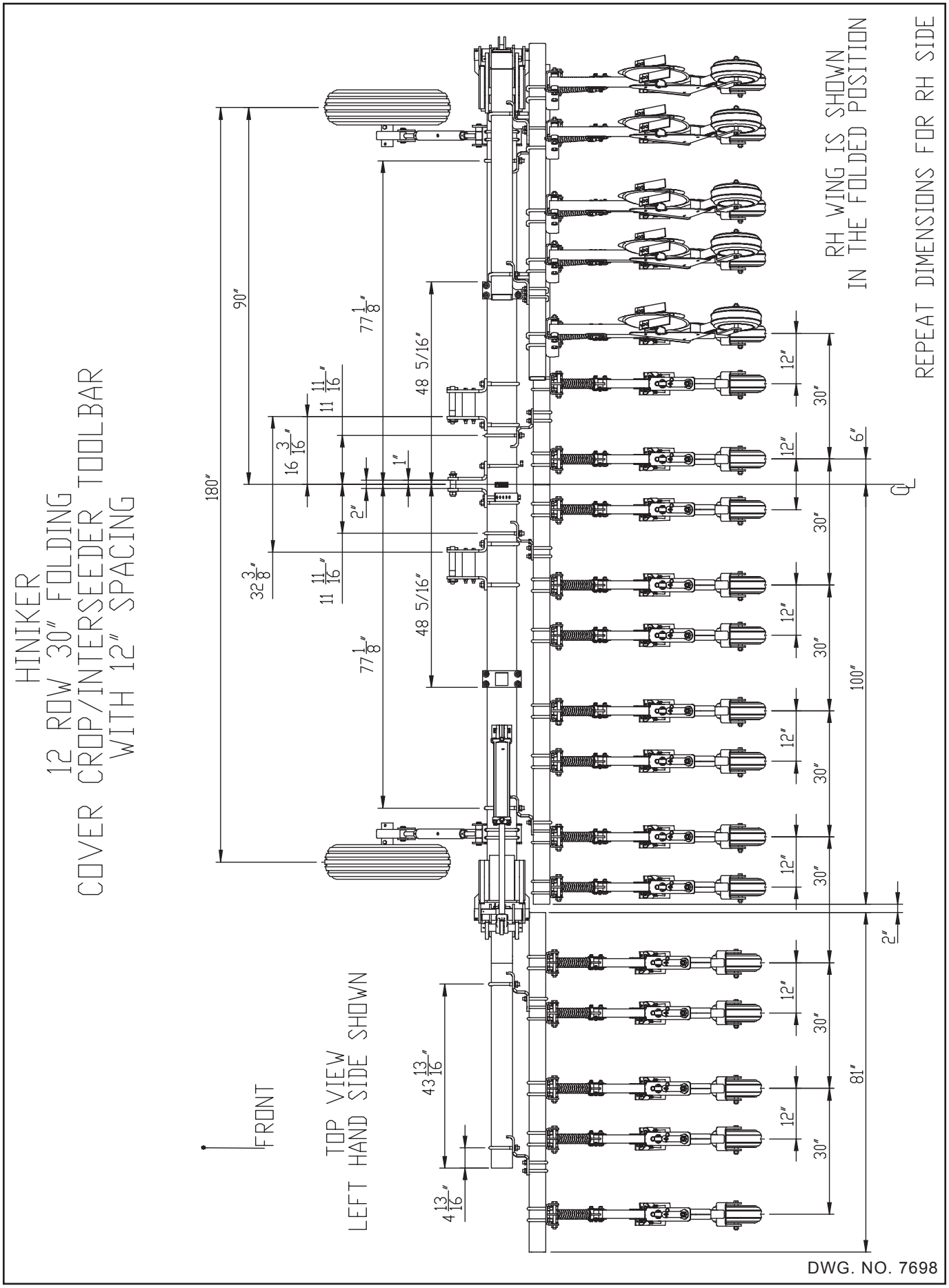

HINIKER
8 ROW 36" FOLDING
COVER CROP/INTERSEEDER TOOLBAR
WITH 16" SPACING
TOP VIEW
LEFT HAND SIDE SHOWN
FRONT
REPEAT DIMENSIONS FOR RH SIDE
RH WING IS SHOWN
IN THE FOLDED POSITION
144"
72"
71 5/8"
16 3/16"
11 11/16"
32 3/8"
2"
1"
36 3/8"
16"
36"
8"
88"
4 7/8"
58"
37 9/16"
7 3/8"

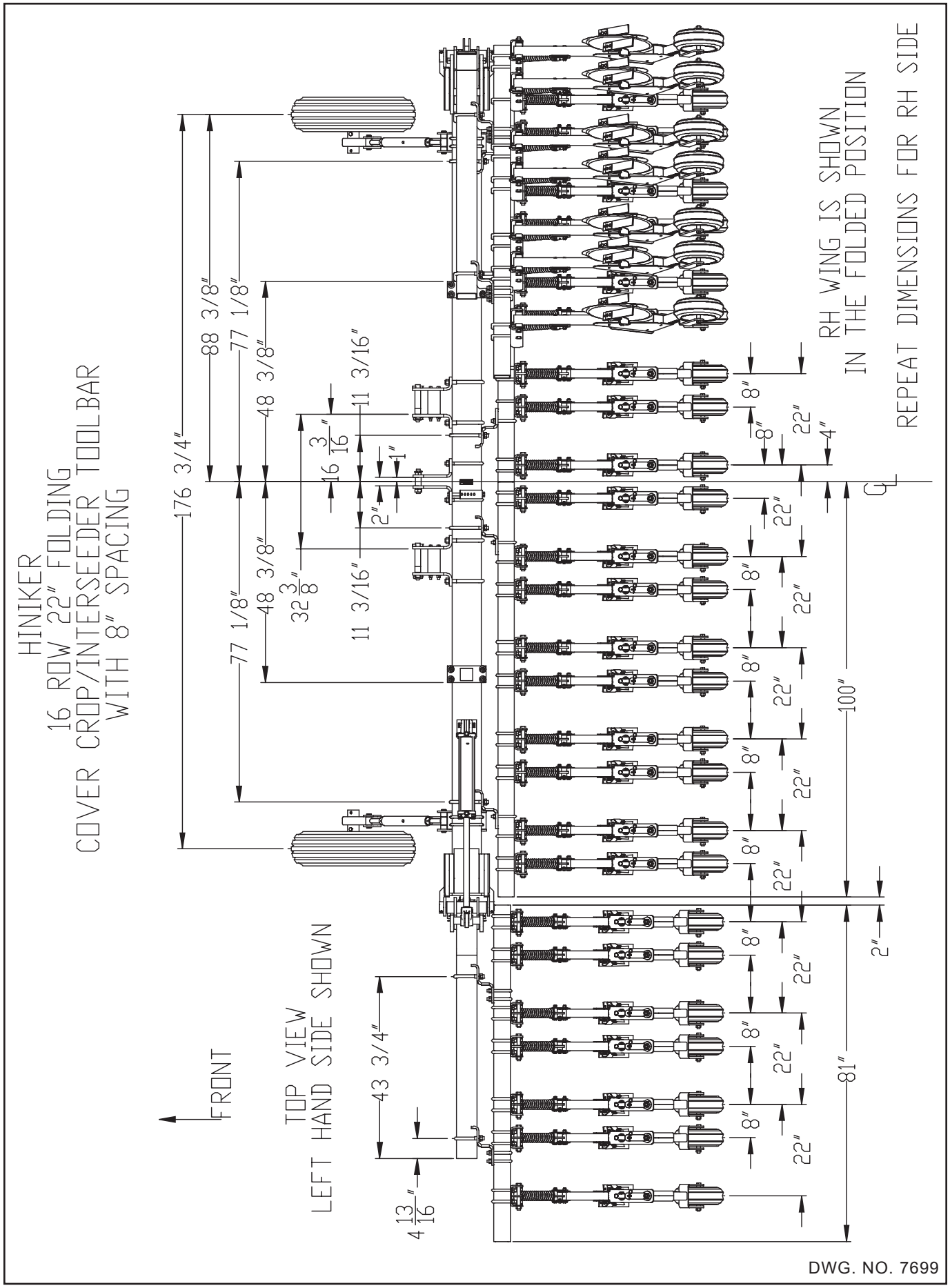
DWG. NO. 7694


HINIKER
12 ROW 20" RIGID
COVER CROP/INTERSEEDER TOOLBAR
WITH 8" SPACING
TOP VIEW
FRONT
160"
80"
87 5/8"
16 3/16"
9 3/16"
1"
2"
32 3/8"
4"
8"
20"
118 3/4"
CL
DWG. NO. 7695

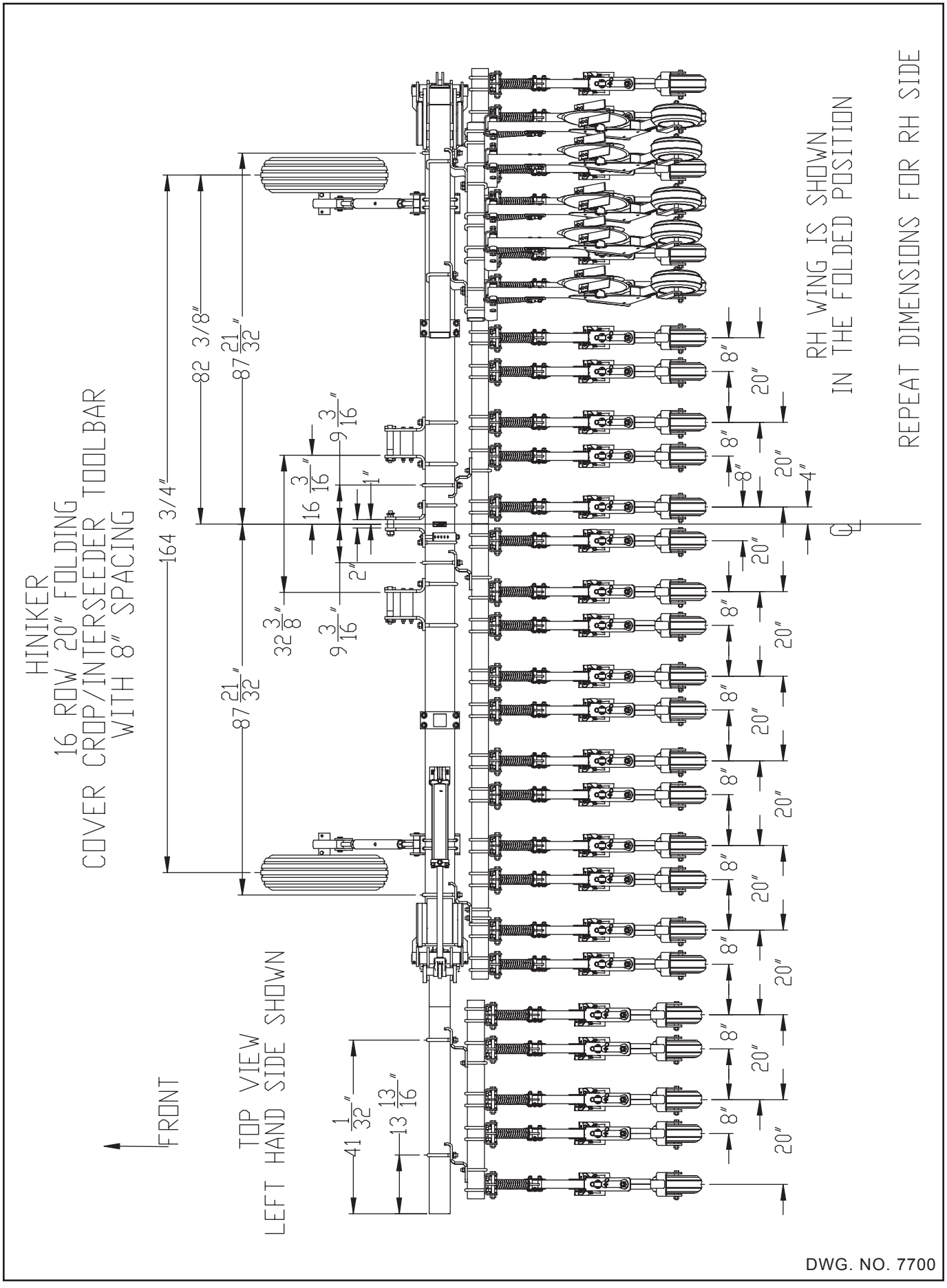

HINIKER
12 ROW 22" RIGID
COVER CROP/INTERSEEDER TOOLBAR
WITH 8" SPACING
TOP VIEW
FRONT
175 3/8"
87 11/16"
93 13/32"
93 13/32"
32 3/8"
9 3/16"
16 3/16"
9 3/16"
1"
2"
8"
22"
4"
131 9/16"
131 9/16"
CL
DWG. NO. 7696


HINIKER
12 ROW 30" FOLDING
COVER CROP/INTERSEEDER TOOLBAR
WITH 10" SPACING
TOP VIEW
LEFT HAND SIDE SHOWN
FRONT
RH WING IS SHOWN
IN THE FOLDED POSITION
REPEAT DIMENSIONS FOR RH SIDE
DWG. NO. 7697
180"
90"
78 1/8"
16 3/16"
11 11/16"
48 5/16"
32 3/8"
1"
2"
5"
10"
30"
100"
81"
44 13/16"
4 13/16"

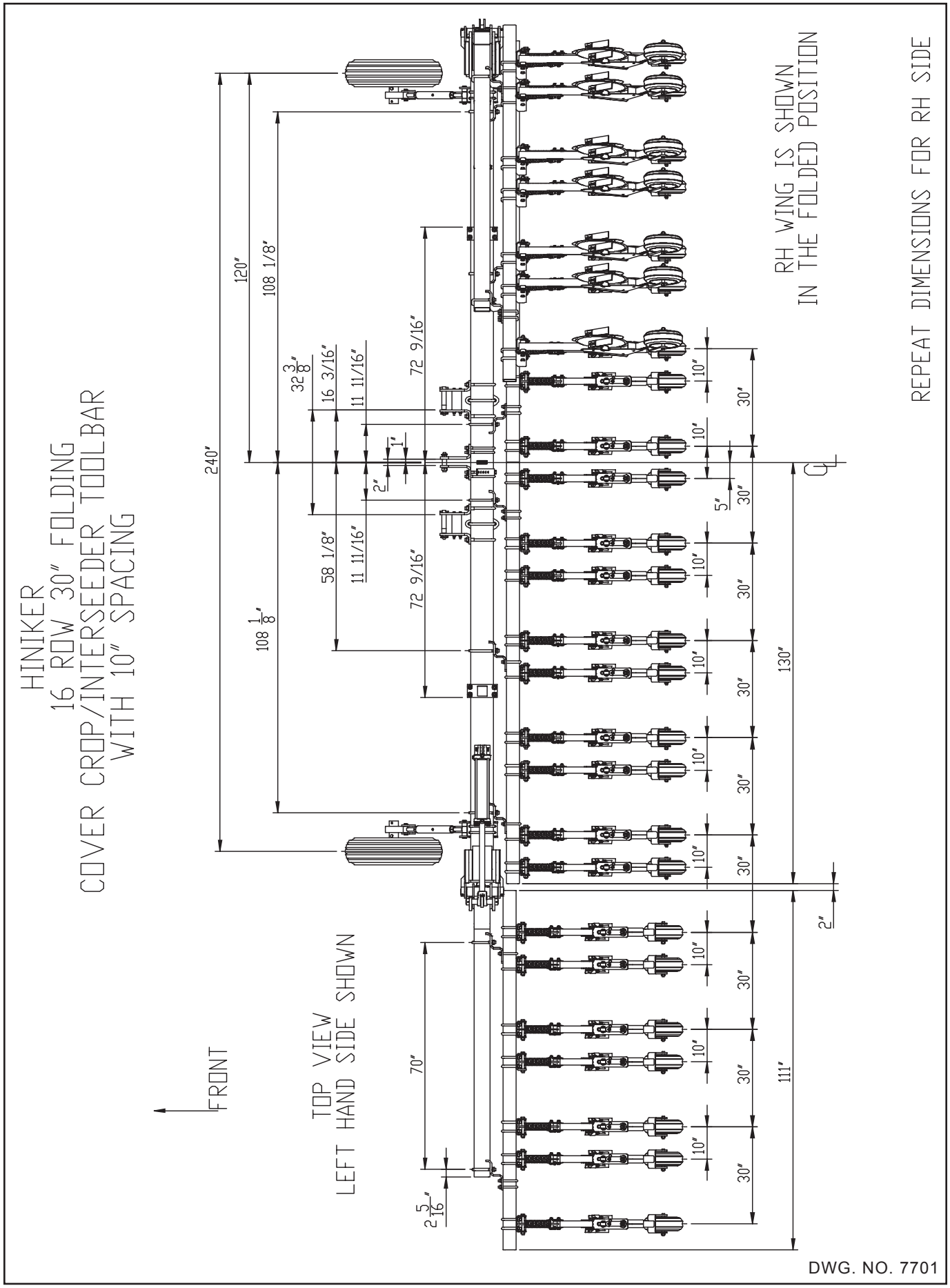

HINIKER
12 ROW 30" FOLDING
COVER CROP/INTERSEEDER TOOLBAR
WITH 12" SPACING
TOP VIEW
LEFT HAND SIDE SHOWN
FRONT
RH WING IS SHOWN
IN THE FOLDED POSITION
REPEAT DIMENSIONS FOR RH SIDE
DWG. NO. 7698
180"
90"
77 1/8"
48 5/16"
11 11/16"
16 3/16"
1"
2"
32 3/8"
43 13/16"
4 13/16"
12"
30"
6"
100"
81"

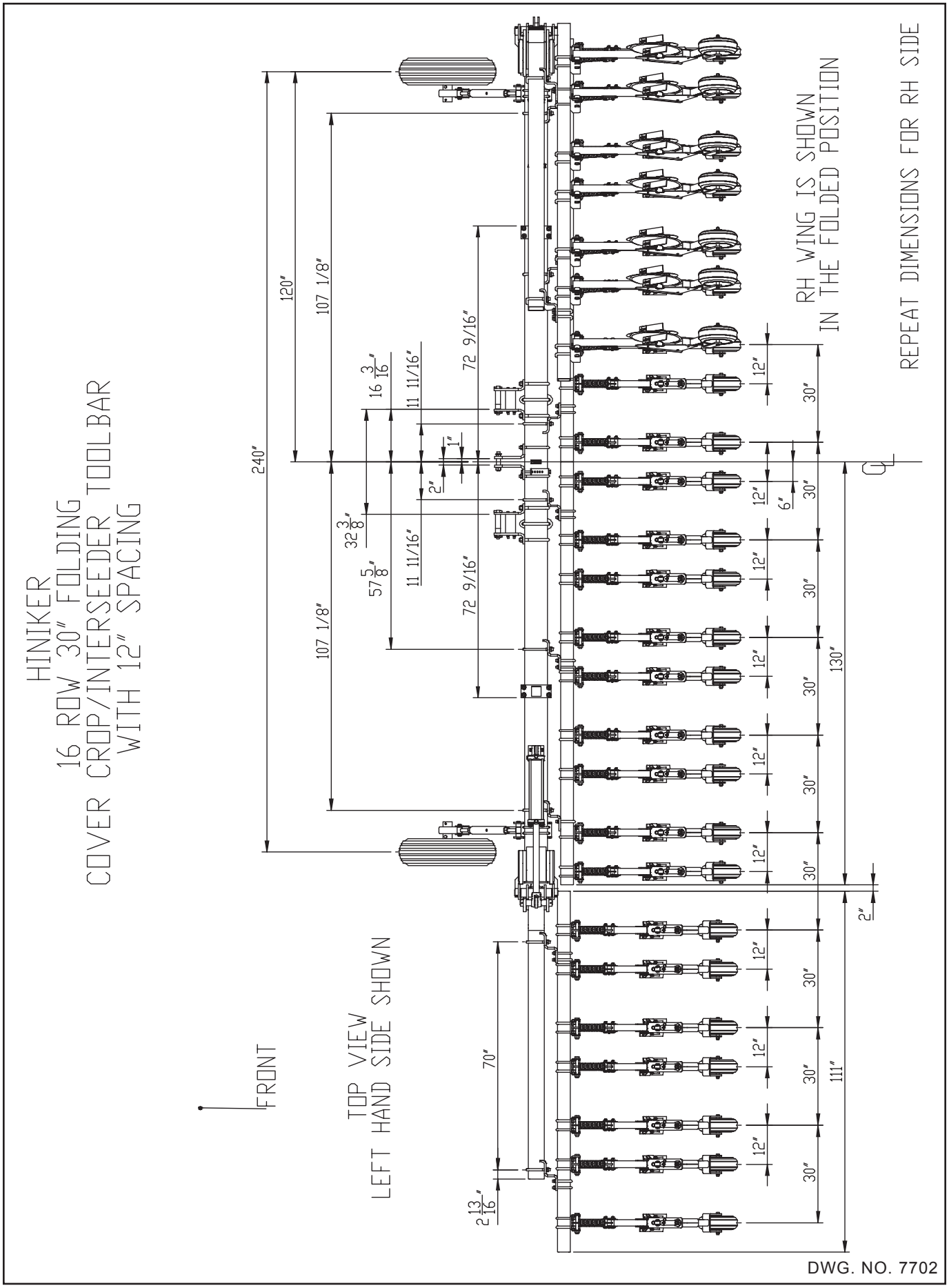

HINIKER
16 ROW 22" FOLDING
COVER CROP/INTERSEEDER TOOLBAR
WITH 8" SPACING
TOP VIEW
LEFT HAND SIDE SHOWN
FRONT
RH WING IS SHOWN
IN THE FOLDED POSITION
REPEAT DIMENSIONS FOR RH SIDE
176 3/4"
88 3/8"
77 1/8"
48 3/8"
32 3/8"
16 3/16"
11 3/16"
3"
1"
2"
43 3/4"
4 13/16"
8"
22"
4"
100"
81"

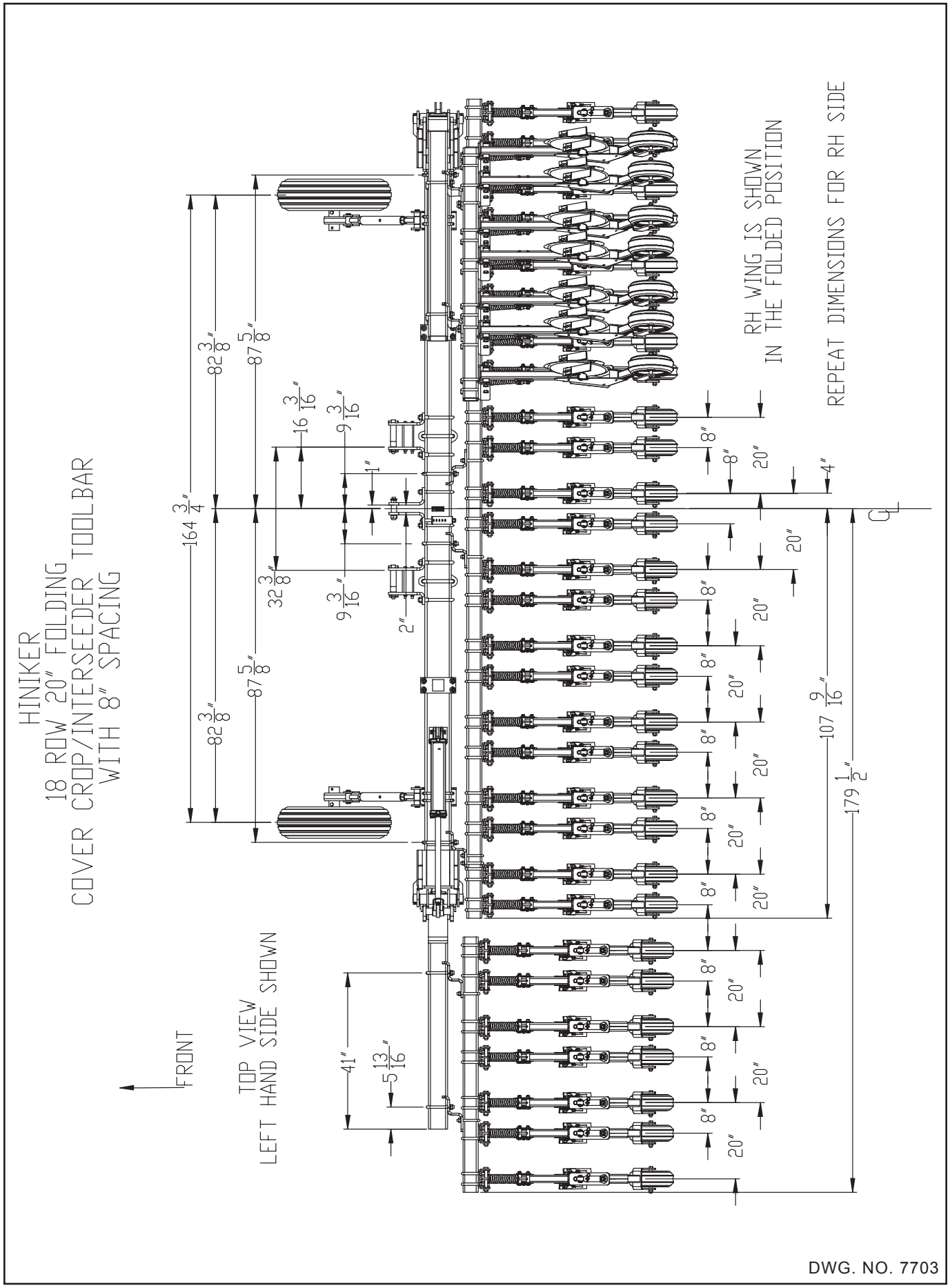
DWG. NO. 7699

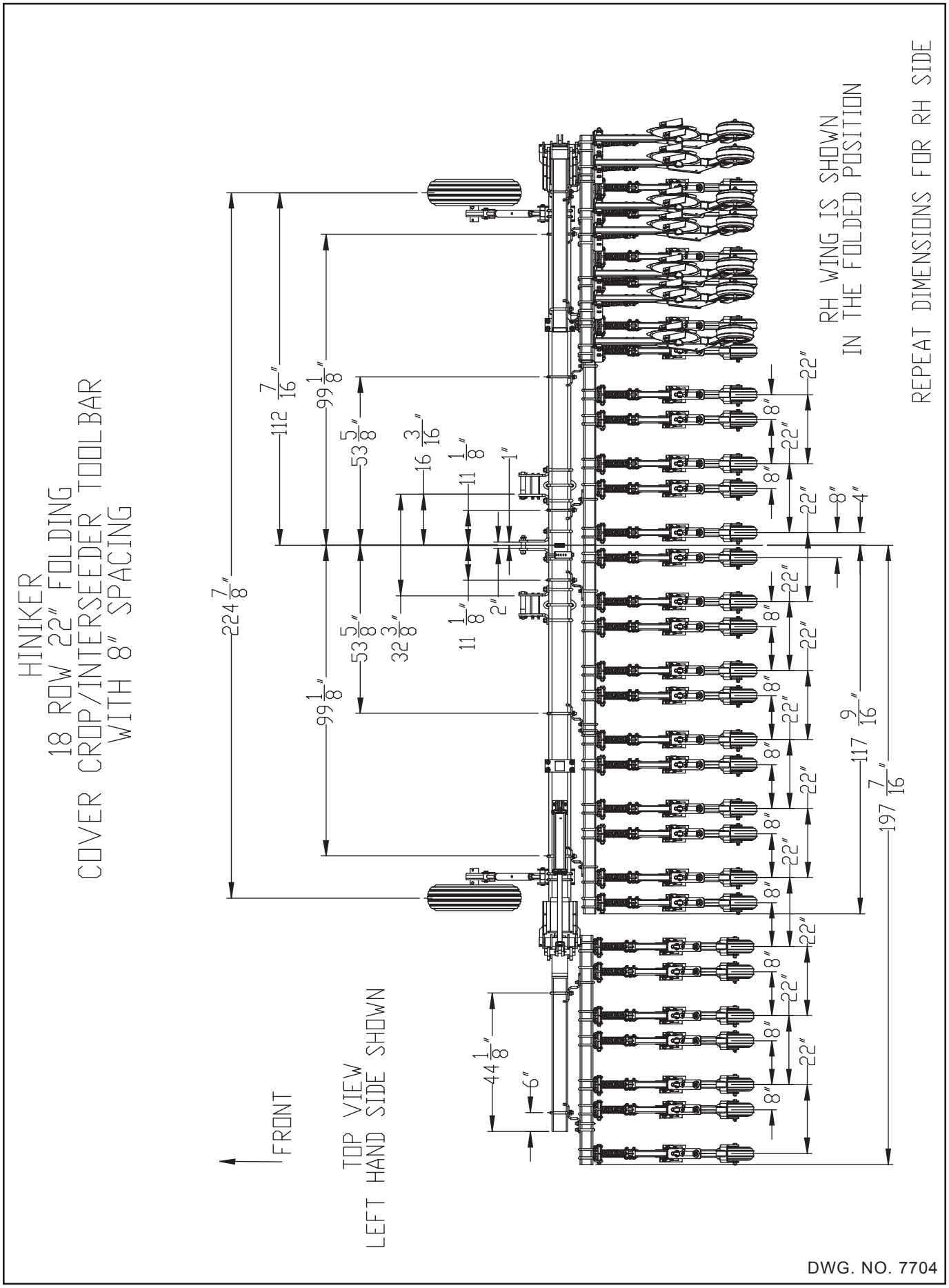

HINIKER
16 ROW 20" FOLDING
COVER CROP/INTERSEEDER TOOLBAR
WITH 8" SPACING
164 3/4"
82 3/8"
87 21/32"
87 21/32"
32 3/8"
16 3/16"
9 3/16"
9 3/16"
3/16"
1"
2"
8"
20"
4"
RH WING IS SHOWN
IN THE FOLDED POSITION
REPEAT DIMENSIONS FOR RH SIDE
TOP VIEW
LEFT HAND SIDE SHOWN
FRONT
41 1/32"
13 13/16"

DWG. NO. 7700

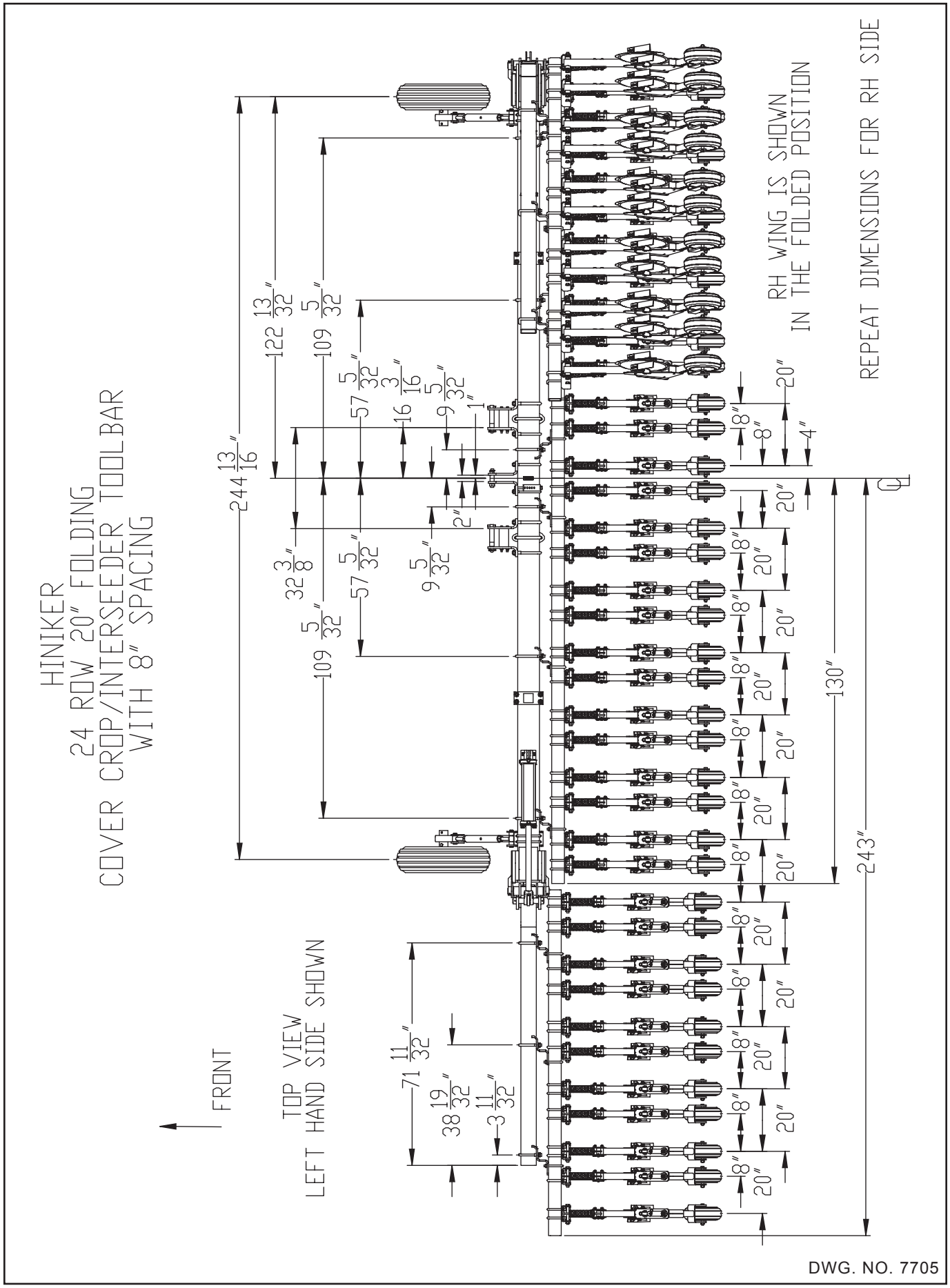

HINIKER
16 ROW 30" FOLDING
COVER CROP/INTERSEEDER TOOLBAR
WITH 10" SPACING
TOP VIEW
LEFT HAND SIDE SHOWN
FRONT
RH WING IS SHOWN
IN THE FOLDED POSITION
REPEAT DIMENSIONS FOR RH SIDE
240"
120"
108 1/8"
108 1/8"
32 3/8"
16 3/16"
11 11/16"
72 9/16"
58 1/8"
11 11/16"
72 9/16"
1"
2"
5"
2"
70"
2 5/16"
10"
30"
130"
111"
DWG. NO. 7701


HINIKER
16 ROW 30" FOLDING
COVER CROP/INTERSEEDER TOOLBAR
WITH 12" SPACING
TOP VIEW
LEFT HAND SIDE SHOWN
FRONT
RH WING IS SHOWN
IN THE FOLDED POSITION
REPEAT DIMENSIONS FOR RH SIDE
DWG. NO. 7702


HINIKER
18 ROW 20" FOLDING
COVER CROP/INTERSEEDER TOOLBAR
WITH 8" SPACING
TOP VIEW
LEFT HAND SIDE SHOWN
FRONT
RH WING IS SHOWN
IN THE FOLDED POSITION
REPEAT DIMENSIONS FOR RH SIDE
164 3/4"
82 3/8"
87 5/8"
16 3/16"
9 3/16"
1"
2"
32 3/8"
107 9/16"
179 1/2"
41"
5 13/16"
8"
20"
4"
CL
DWG. NO. 7703

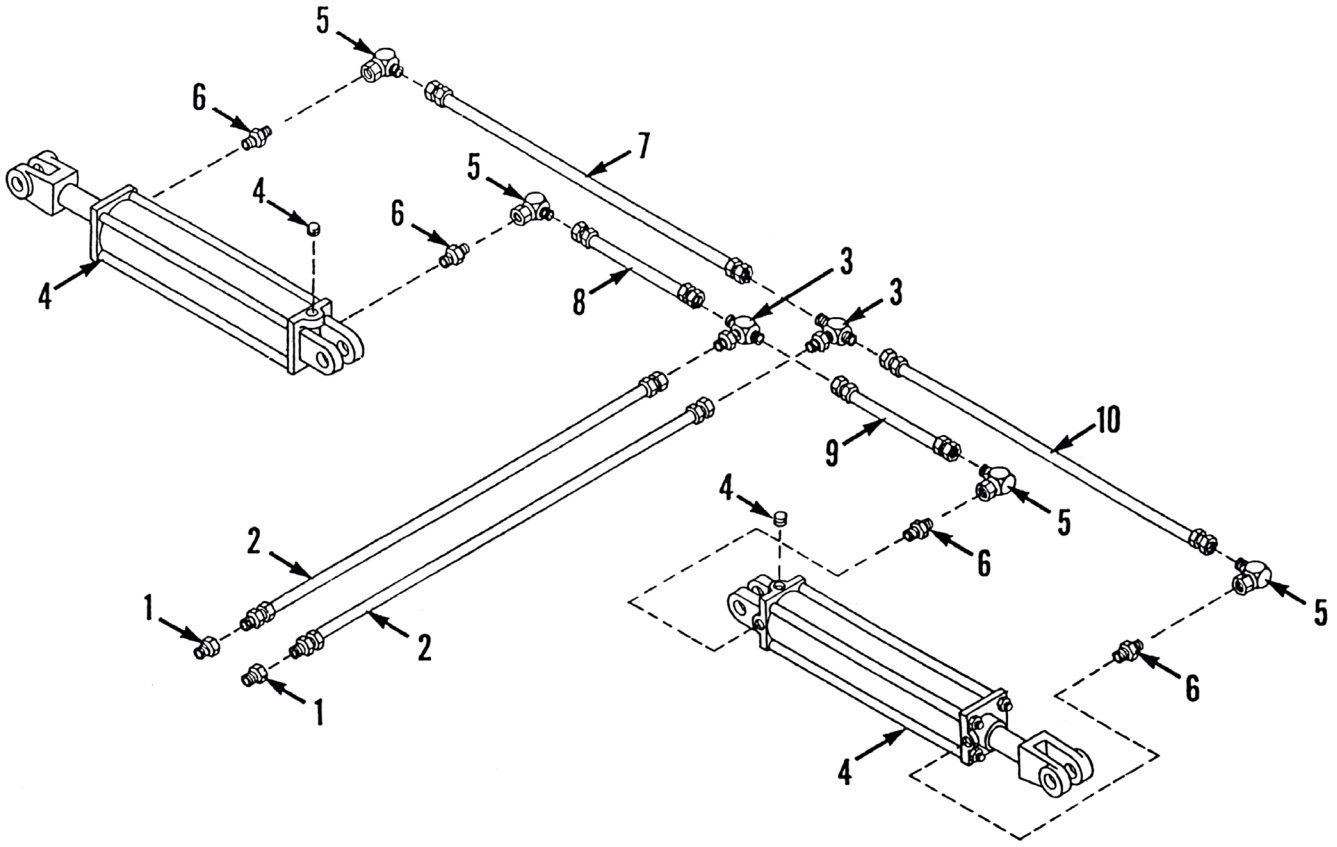

HINIKER
18 ROW 22" FOLDING
COVER CROP/INTERSEEDER TOOLBAR
WITH 8" SPACING
TOP VIEW
LEFT HAND SIDE SHOWN
FRONT
RH WING IS SHOWN
IN THE FOLDED POSITION
REPEAT DIMENSIONS FOR RH SIDE
224 7/8"
112 7/16"
99 1/8"
53 5/8"
16 3/16"
11 1/8"
1"
2"
32 3/8"
44 1/8"
6"
117 9/16"
197 7/16"
22"
8"
4"

DWG. NO. 7704


HINIKER
24 ROW 20" FOLDING
COVER CROP/INTERSEEDER TOOLBAR
WITH 8" SPACING
TOP VIEW
LEFT HAND SIDE SHOWN
FRONT
RH WING IS SHOWN
IN THE FOLDED POSITION
REPEAT DIMENSIONS FOR RH SIDE
DWG. NO. 7705

WING LIFT FOLDING TOOLBAR HYDRAULIC ASSEMBLY

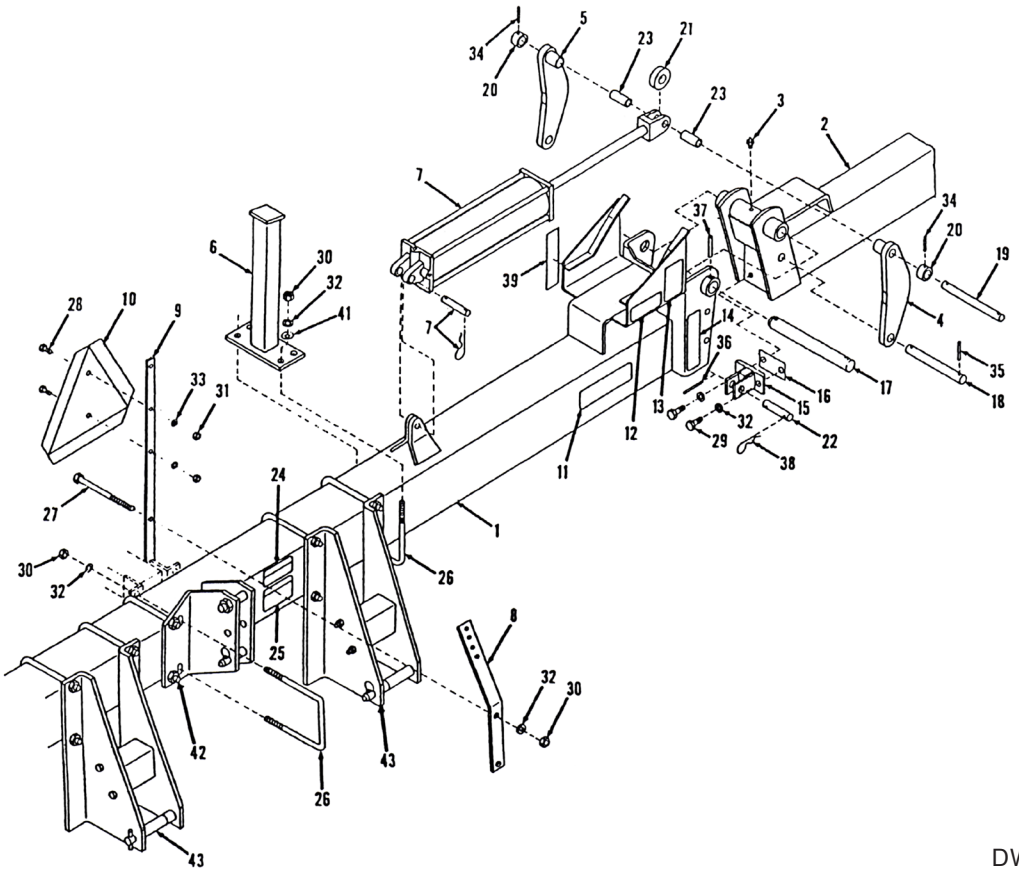
MODELS
12 ROW 30”
16 ROW 30”



DWG. NO. 2539

REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	956-004-002	Reducer Bushing, 1/2 - 14 Male NPT To 3/8-18 Female NPT	2	8	951-001-004	3/8 x 29 Inch Long Hose Assembly (8 Row 30)	1
					957-002-014	3/8 x 48 Inch Long Hose Assembly (12 Row 36/38)	1
2	957-002-014	3/8 x 48 Inch Long Hose Assembly	2		957-001-009	3/8 x 50 Inch Long Hose Assembly (8 Row 36/38)	1
3	956-007-003	Bulkhead Tee, 9/16-18 Male 37° JIC To 9/16-18 Male 37° JIC	2		957-001-014	3/8 x 60 Inch Long Hose Assembly (12 Row 30)	1
					957-001-019	3/8 x 92 Inch Long Hose Assembly (16 Row 30)	1
4	81002579	4.00 Inch Diameter x 16 Inch Stroke Cylinder (16 Row 30) 1991-1994	2	9	957-001-006	3/8 x 41 Inch Long Hose Assembly (8 Row 30)	1
					957-001-015	3/8 x 68 Inch Long Hose Assembly (8 Row 36/38)	1
	81004342	4.00 Inch Diameter x 16 Inch Stroke Cylinder (16 Row 30) 1994 -	2		957-001-018	3/8 x 79 Inch Long Hose Assembly (12 Row 30)	1
					957-001-057	3/8 x 86 Inch Long Hose Assembly (12 Row 36/38)	1
	81002580	3.50 Inch Diameter x 16 Inch Stroke Cylinder (8 Row, 3036/38) (12 Row 30) (12 Row 36/38)	2		957-001-056	3/8 x 108 Inch Long Hose Assembly (16 Row 30)	1
				10	957-001-014	3/8 x 60 Inch Long Hose Assembly (8 Row 30)	1
5	956-005-002	90° Elbow, 9/16 - 18 Female 37° JIC To 9/16-18 Male 37° JIC	4		957-001-057	3/8 x 86 Inch Long Hose Assembly (8 Row 36/38)	1
					957-001-020	3/8 x 96 Inch Long Hose Assembly (12 Row 30)	1
6	956-008-024	Restrictor Fitting, 3/4 -16 Male SAE O-Ring To 9/16-18 Male 37° JIG	4		957-001-022	3/8 x 120 Inch Long Hose Assembly (12 Row 36/38)	1
					957-001-054	3/8 x 126 Inch Long Hose Assembly (16 Row 30)	1
7	957-001-009	3/8 x 50 Inch Long Hose Assembly (8 Row 30)	1				
	957-001-017	3/8 x 72 Inch Long Hose Assembly (8 Row 36/38)	1				
	957-00 1-0 18	3/8 x 79 Inch Long Hose Assembly (12 Row 30)	1				
	957-001-071	3/8 x 102 Inch Long Hose Assembly (12 Row 36/38)	1				
	957-001-056	3/8 x 108 Inch Long Hose Assembly (16 Row 30)	1				

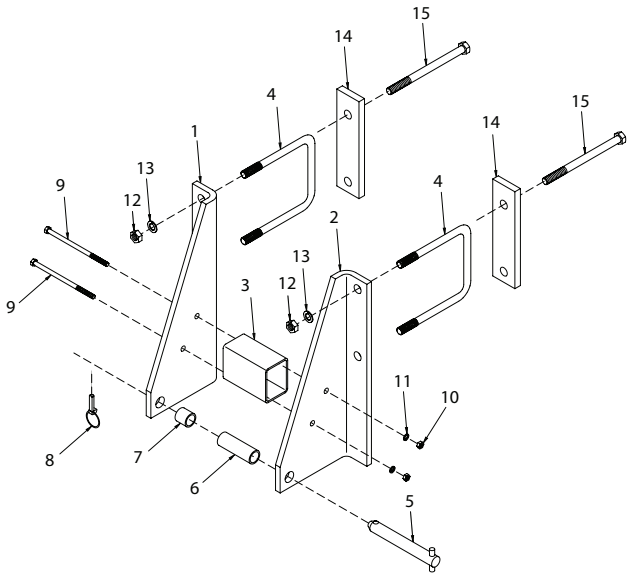
FOLDING TOOLBAR SERIES 1000



DWG. NO. 2406

REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	81003224	Center Frame Weldment (8 Row 30)	1	19	81003167	Link Pin (8 & 12 Row)	2
	81003221	Center Frame Weldment (8 Row 36/38)	1		81003209	Link Pin (16 Row)	2
	81003164	Center Frame Weldment (12 Row 30)	1	20	81003138	Roller (8 & 12 Row)	4
	81003227	Center Frame Weldment (16 Row 30)	1	21	850-001-205	Roller (8 & 12 Row)	2
2	81003226	Wing Weldment (8 Row 30)	2		810-001-255	Roller (16 Row)	2
	81003220	Wing Weldment (8 Row 36/38)	2	22	850-001-200	Hinge Pin	2
	81003127	Wing Weldment (12 Row 30)	2	23	81003169	Tube (8 & 12 Row Only)	4
	81033222	Wing Weldment (16 Row 30)	2	24	850-002-426	Caution Decal	1
3	955-001-001	Grease Fitting, 1/8 -27 NPT	2	25	810-001-821	Notice Decal	1
4	81003112	LH Link Weldment	2	26	805-001-332	U-Bolt, 5/8- 11 x 7 5/8 Center	6
5	81003111	RH Link Weldment	2	27	950-001-181	Hex Head Cap Screw, 5/8 -11 x 8 1/2 Gr. 5	2
6	81003108	Stand Weldment	2	28	950-001-003	Hex Head Cap Screw, 1/4 - 20 x 1 Gr. 2	2
7	81002580	3.50 Dia x 16 Inch Stroke Cylinder (See Section 3B, Page 4)	2	29	950-001-087	Hex Head Cap Screw, 5/8-11 x 1 1/2 Gr. 5	4
				30	951-001-008	Hex Nut, 5/8-11	14
	81002579	4.00 Dia x 16 Inch Stroke Cylinder (See Section 3B, Page 4)	2	31	951-001-003	Hex Nut, 1/4 - 20	2
				32	952-001-005	Lock Washer, 5/8 Inch	14
	81004342	4.00 Dia x 16 Inch Stroke Cylinder (See Section 3B, Page 5)	1	33	952-001-001	Lock Washer, 1/4 Inch	2
				34	953-003-017	Spring Pin, 5/16 x 2	4
8	805-001-784	30° Bulkhead Plate	1	35	953-006 008	Coil Spring Pin, 5/16 x 2 1M Long	4
9	815-001-004	SMV Mount Strap	1	36	953-003-023	Spring Pin, 5116 x 3 Long	2
10	850-001-354	SMV Sign	1	37	953-003-023	Spring Pin, 1/2 x 2 3/4 Long	2
11	81003191	'Hiniker Decal	4	38	953-005-002	Hair Pin Cotter, .178 x 39/16 Long	2
12	850-001-980	Warning Decal	2	39	850-001-305	Red Reflective Tape	2
13	950-001-306	Warning Decal	2	40	81003192	1000" Decal (Not Shown - Same Position As Item 11 But Other End)	1
14	850-001-285	Yellow Reflective Tape	2				
15	81003120	Lock Weldment	4	41	952-002-007	Flat Washer, 5/8 Inch	8
16	81003168	Shim	2	42	81003246	Upper Hitch Assy 7 x 7 (See Sec. 4 Page 9)	1
17	810-002-155	Hinge Pin	1	43	81003246	Lower Hitch Assy 7 x 7 (See Sec. 4 Page 9)	2
18	81003133	Link Pin	2				

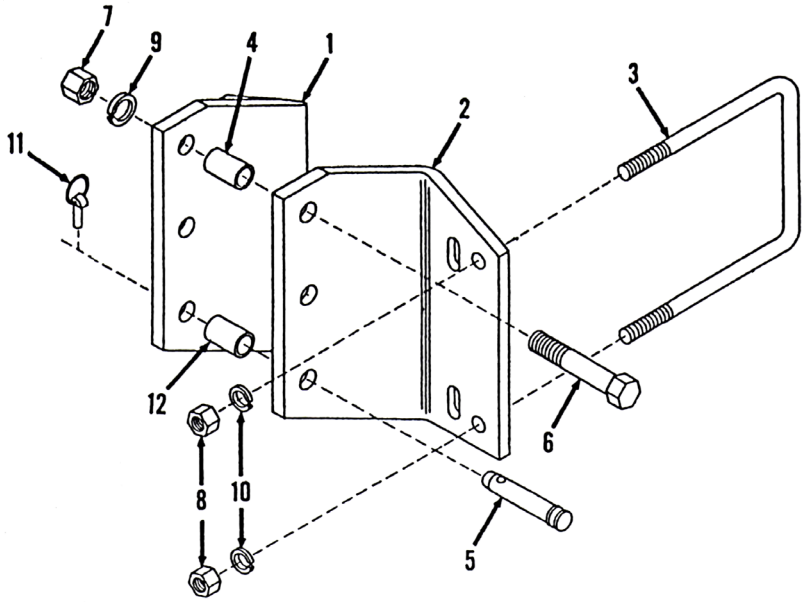
LOWER HITCH FOLDING



DWG. NO. 2394A

REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	81003247	RH Lower Hitch Plate	1	9	950-001-259	Hex Head Cap Screw, 1/2-13 x 8 Gr. 5	2
2	81003248	LH Lower Hitch Plate	1	10	951-001-007	Hex Nut, 1/2-13	2
3	81003031	Spacer Tube	1	11	952-001-004	Lock Washer, 1/2 Inch	2
4	875-001-038	U-Bolt, 3/4-10 x 7 13/16 Center (1990 12 Row 30 Only)	2	12	951-001-009	Hex Nut, 3/4-10 (1990 12 Row 30 Only)	4
	81003235	U-Bolt, 7/8-9 x 7/8 Center	2		951-001-010	Hex Nut, 7/8-9	4
5	851-001-032	Lower Pin Assembly	1	13	952-001-006	Lock Washer, 3/4 Inch (1990 12 Row 30 Only)	4
6	81003024	Large Spacer	1		952-001-008	Lock Washer, 7/8 Inch	4
7	81003123	Small Spacer	1	14	81003524	Mount Plate (1999 16R30)	2
8	230-026-005	Klik Pin	1	15	950-001-210	Hex Head Cap Screw 7/8-9 x 10 Gr. 5 (1999 16R30)	4

UPPER HITCH FOLDING



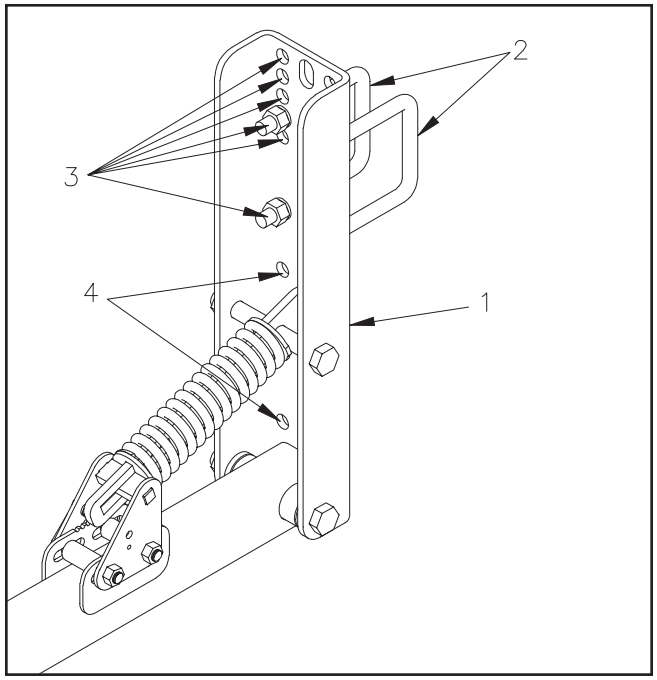
DWG. NO. 2392

REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	81003252	RH Upper Hitch	1	7	951-001-011	Hex Nut, 1-8	1
2	81003251	LH Upper Hitch	1	8	951-001-009	Hex Nut, 3/4-10	4
3	875-001-038	U-Bolt, 3/4-10 x 7 13/16 Center	2	9	952-001-009	Lock Washer, 1 Inch	1
4	980-001-009	Spacer, 1 1/32 ID x 1 3/8 OD x 2 Long	1	10	952-001-006	Lock Washer, 3/4 Inch	4
5	875-001-123	Top Lonk Pin	1	11	230-026-005	Klik Pin	1
6	950-001-170	Hex Head Cap Screw, 1-8 x 4 1/2 Gr. 5	1	12	230-026-004	Bushing, 1.005 ID x 1 1/4 OD x 1 15/16 Long	1

ROW UNIT INSTRUCTIONS

ROW UNIT MOUNTING

Refer to DWG. 7706



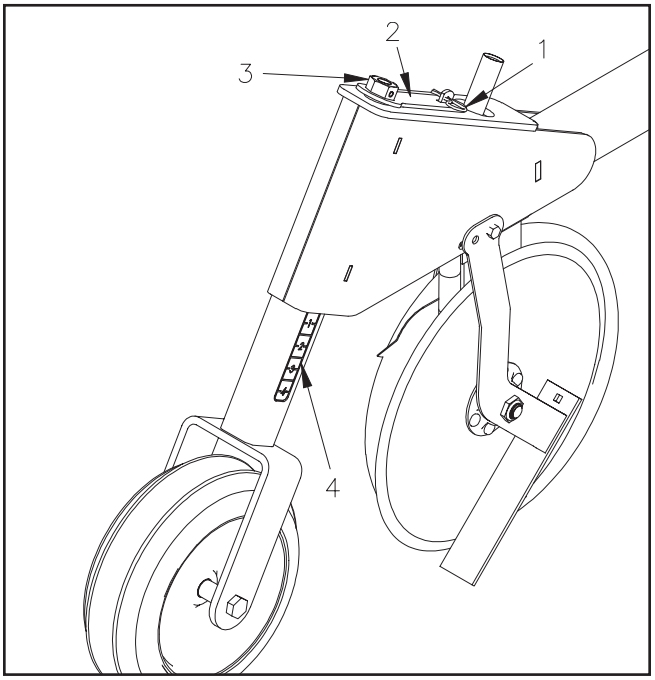
DWG. NO. 7706

The Hiniker cover crop/interseeder row unit has a mount channel (Item 1) that is capable of mounting to several different tube sizes. The row unit comes assembled with U-bolts to mount it to a 4 x 4 square tube (Item 2). Although these U-bolts are provided, the row unit is capable of fitting from 3” to 7” tube sizes in increments of 1” (Item 3).

Contact Hiniker for U-bolt kits to fit other tube sizes. The channel also has a set of holes provided to mount it to a 7 x 7 tube in a low profile arrangement (Item 4) if crop clearance is not of importance. A spacer kit is needed only if the lower set of holes (Item 4) are used and can be purchased from the Hiniker Company.

ROW UNIT DEPTH ADJUSTMENT

Refer to DWG. 7707



DWG. NO. 7707

The Hiniker cover crop/interseeder row unit depth can be adjusted by first removing the hair pin (Item 1) from the row unit. Lift the wrench (Item 2) from it’s storage-locking position and place it over the hex on the depth adjustment nut (Item 3). Turning the adjustment nut (Item 3) clockwise will increase the seed depth placement and turning the nut counter clockwise will decrease the seed depth placement.

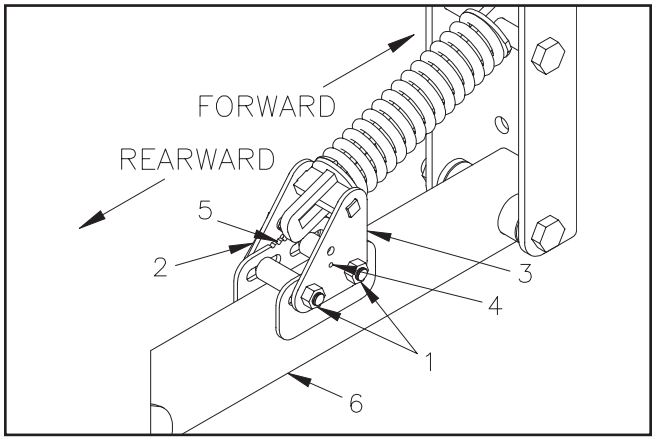
The depth decal (Item 4) is direct reading in “inches” and can be used as a guide to correspond depth from row unit to row unit. Soil hardness conditions can affect the depth at which the seed is actually placed and should be taken into consideration when setting the row unit depth adjustment.

For example, the row units that follow the tractor tire tracks may need to be set differently to allow for the compaction caused by the tractor tires.

Once the row unit depth adjustment has been set return the wrench (Item 2) to it's storage/locking position over the nut (Item 3), and tab for the locking hair pin. Replace the hair pin (Item 1). The depth adjustment nut (Item 3) is now locked in position and can not turn.

ROW UNIT DOWN PRESSURE ADJUSTMENT

Refer to DWG. 7708



DWG. NO. 7708

The Hiniker cover crop/interseeder row unit has a down pressure adjustment feature. The row units are set from the factory with the down pressure adjustment in the middle setting. This provides approximately 320 lbs. of down force at the double disc seed opener. The down pressure can be adjusted up or down from this middle setting.

To adjust the down pressure on each individual row unit first raise the toolbar that the row units are mounted to a lifted position. Lower the toolbar support stands and pin them to support the toolbar in the raised position. This is a precautionary measure to help prevent injury or death in the event that the toolbar hydraulics should fail.

To adjust the down pressure loosen the nuts (Item 1) on the row unit assembly. The heads of the locking bolts are secured from turning by the locking plate (Item 2) so there is no need for a second wrench to be used during the down pressure adjustment process.

Once the nuts (Item 1) are loosened the spring support plates (Item 3) can slide forward or rearward to adjust the down pressure. Sliding the spring support plates (Item 3) forward on the row unit will increase the row unit down pressure. Sliding them rearward on the row unit will decrease the down pressure.

To move the spring support plates (Item 3) forward or rearward grab the row unit tube (Item 6) and raise or lower it until the spring support plates are in the desired position and retighten the nuts (Item 1).

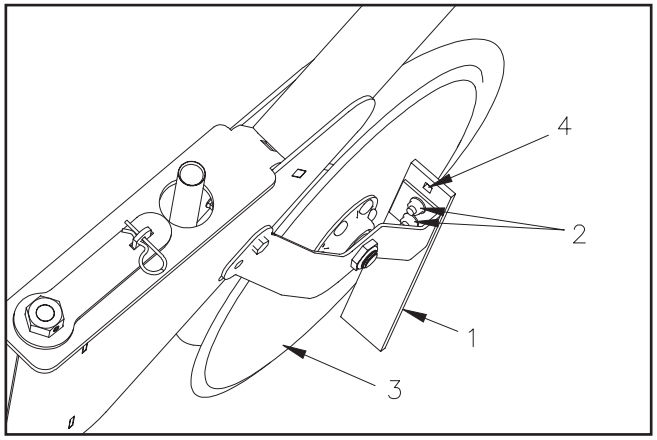
Note that there indicator holes (Item 4) in the spring support plates (Item 3) that can be aligned with the notches (Item 5) on the row unit arm.

Repeat the adjustment for all of the row units on the machine aligning the indicator holes (Item 4) with the proper notch (Item 5). It may be necessary for the row units that run in the tractor wheel tracks to have more down pressure to get those row units to penetrate properly.

Once the row unit down pressure has been adjusted on all of the row units on the toolbar raise the toolbar off the support stands and pin the stands in a raised or field operation position.

ROW UNIT WIPER ADJUSTMENT

Refer to DWG. 7709



DWG. NO. 7709

The Hiniker row unit is provided with poly coulter wipers (Item 1) that perform two functions. They wipe the opener coulters (Item 3) in damp and muddy conditions which prevents soil build up on the coulters and they hold and firm the soil at ground level along the side of the coulter.

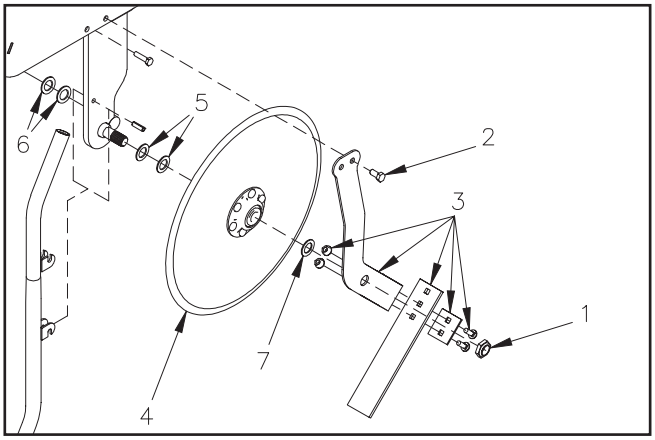
This prevents slabbing and firms the soil around the seed bed. The poly wipers are adjustable both in and out from the coulters and up and down.

Adjust the wipers (Item 1) in or out by loosening the nuts (Item 2) and sliding them in the adjustment slots to within 3/16” to 1/8” of the coulter (Item 3). Then retighten the nuts (Item 2).

The wipers (Item 1) can be adjusted down in the event of wear by removing the nuts (Item 2), bolts, and backing plate and lowering the wipers to the upper hole provided (Item 4). Once moved down replace the backing plate, bolts and nuts (Item 2) and tighten the nuts.

COULTER ADJUSTMENT

Refer to DWG. 7710



DWG. NO. 7710

The Hiniker opener is designed with two opener coulters. One slightly leads the other which results in better cutting action and soil penetration. For the opener to work properly the two coulters must be slightly touching each other during their rotation.

As the coulters wear the diameter gets smaller and this causes the coulters to no longer touch. This could result in poor soil penetration, poor cutting action, and trash getting stuck between them. If this situation occurs it may be necessary to adjust the coulters in towards one another.

This is accomplished by removing spacer washers that were initially installed onto the row unit. To perform this adjustment, first remove the nut (Item 1) from the coulter spindle. Then remove the bolt (Item 2) and nut holding the top of the wiper assembly in place. Remove the wiper assembly (Items 3) as an asssembly from the coulter spindle.

It is not necessary to disassemble the wiper assembly into individual components to remove it. Remove the outside washer (Item 7) and coulter assembly (Item 4) from the coulter spindle.

Behind the coulter assembly will be two washers (Item 5). Remove one of the washers (Item 5) and reinstall the coulter (Item 4), washer (Item 7), and nut (Item 1). Tighten the nut. This is a test fit procedure so the wiper assembly does not need to be installed at this time.

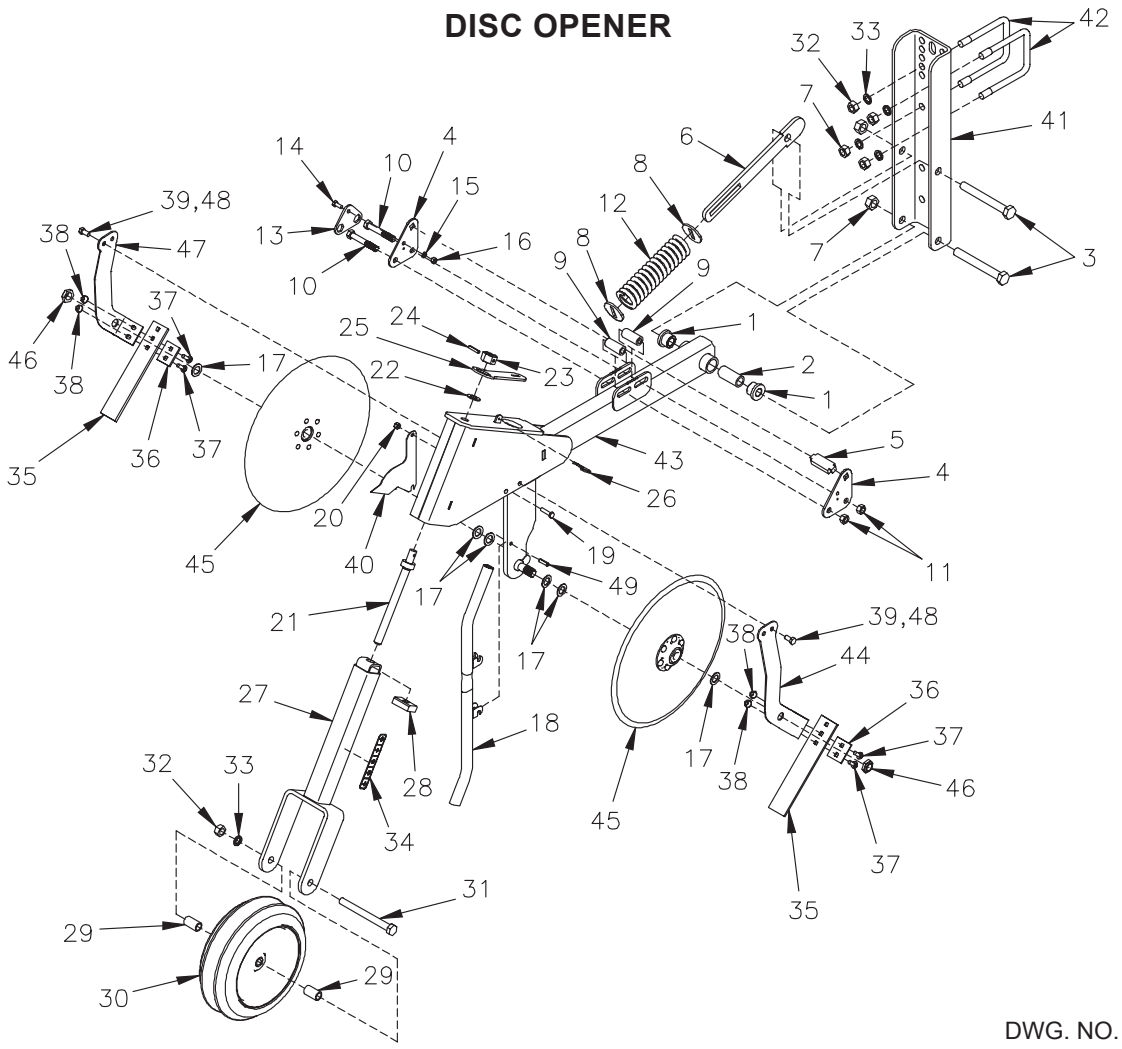
Repeat this procedure for the coulter on the opposite side of the row unit by removing one of the washers (Item 6). With the washers removed the coulters should have light contact with one another while rotating.

If the contact is too heavy or there is resistance when turning the coulters it may be necessary to remove only one washer on one side. If there is still a gap between the coulters after removing the two washers it may be necessary to remove a third or fourth washer (Item 5 & 6).

Once the test fit procedure is complete remove the nut (Item 1) from the spindle and reinstall wiper assembly (Items 3) and bolt in place using the previously removed bolt and nut (Item 2) and reinstall the nut to the spindle (Item 1). Repeat this procedure for the opposite side then repeat this procedure for the remaining row units.

NOTE: Keep all removed washers (Items 5 & 6). These washers will be reused if new coulter assemblies need to be installed.

DISC OPENER



DWG. NO. 7438

REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	81004019	Flange Bushing	2	26	953-005-001	Hair Pin Cotter .120 x 2 3/8	1
2	81007086	Spacer	1	27	81007095	Gauge Wheel Mount Weldment	1
3	950-001-152	Hex Head Cap Screw 3/4-10 x 6 Gr. 5	2	28	81007096	Threaded Block	1
4	81007087	Spring Mount Plate	2	29	81007097	Gauge Wheel Spacer	2
5	81007088	Trunnion Block	1	30	81007098	4 x 12 Press Wheel Assembly	1
6	81007089	Spring Strap	1	31	950-001-027	Hex Head Cap Screw 5/811 x 6 1/2 Gr. 5	1
7	951-005-037	Lock Nut 3/4-10 2-Way	2	32	951-001-008	Hex Nut 5/8-11	5
8	81007090	Bottom Spring Washer	2	33	952-001-005	Lock Washer 5/8 Med Split SAE	5
9	81007091	Clamp Tube	2	34	81007138	Depth Decal	1
10	031-06212	Hex Head Cap Screw 1/2-13 x 3 1/4 Gr. 5	2	35	81007099	Plastic Scraper	2
11	10304	Lock Nut 1/2-12	2	36	81007100	Scraper Backup	2
12	805-002-007	Compression Spring	1	37	030-16042	Carriage Bolt 5/16-18 x 1 Gr. 5	4
13	81007092	Nut Strap	1	38	951-002-002	Flanged Whiz Lock Nut 5/16-18	4
14	950-001-113	Hex Head Cap Screw 5/16-18 x 3/4 Gr. 5	1	39	950-001-089	Hex Head Cap Screw 3/8-16 x 3/4 Gr. 5	2
15	952-001-002	Lock Washer 5/16 Med Split SAE	1	40	81007101	Inside Scraper	1
16	951-001-004	Hex Nut 5/16-18	1	41	81007102	Mount Channel Tall	1
17	952-004-003	Machine Bushing 49/64 x 1 1/4 x .075	6	42	850-001-072	U-Bolt 5/8-11 Square 4 5/8 Center	2
18	81007107	Seed Tube Weldment	1	43	81007103	Opener Frame Weldment	1
19	950-001-200	Hex Head Cap Screw 5/16-18 x 1 1/4 Gr. 5	1	44	81007104	RH Spindle Mount-Ingersol	1
20	951-003-001	Hex Nut 5/16-18 Nylon Insert	1	45	81007106	16 Inch Coulter Assembly-Ingersol	2
21	81007093	Threaded Rod Weldment	1	46	951-003-019	Nut 3/4-10 Nylon Insert Thin	2
22	952-003-003	Flat Washer 5/8 SAE	1	47	81007105	LH Spindle Mount-Ingersol	1
23	810-001-439	Hex Nut Drilled	1	48	951-002-003	Flanged Whiz Lock Nut 3/8-16	2
24	953-003-018	Slotted Spring Pin 1/4 x 1 1/4 Zinc Platted	1	49	30010670	Slotted Spring Pin 5/16 x 1 Inch Zinc Platted	1
25	81007094	Lock Wrench	1				

HINIKER WARRANTY

The only warranty Hiniker Company (Hiniker) gives and the only warranty the dealer is authorized to give is as follows:

We warranty new products sold by Hiniker or authorized Hiniker dealers to be in accordance with our published specifications or those specifications agreed to by us in writing at time of sale. Our obligation and liability under this warranty is expressly limited to repairing or replacing, at our option, within one year after date of retail delivery, to the original purchaser, any product not meeting the specification. **WE MAKE NO OTHER WARRANTY, EXPRESS OR IMPLIED AND MAKE NO WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR ANY PARTICULAR PURPOSE.** Our obligation under this warranty shall not include any transportation charges or costs or any liability for direct, indirect or consequential damage or delay. If requested by Hiniker Company, products or parts for which a warranty claim is made are to be returned freight prepaid to our factory. Any improper use, operation beyond rated capacity, substitution of parts not approved by Hiniker Company, or any alteration or repair by others in such manner as in our judgement affects the product materially and adversely shall void this warranty. **NO EMPLOYEE OR REPRESENTATIVE IS AUTHORIZED TO CHANGE THIS WARRANTY IN ANY WAY OR GRANT ANY OTHER WARRANTY.**

HINIKER reserves the right to make improvement changes on any of our products without notice.

HINIKER does not warrant the following:

1. Used products

2. Any product that has been repaired modified or altered in a way not approved by Hiniker Company.

3. Depreciation or damage caused by normal wear, lack of reasonable and proper maintenance, failure to follow Operator Manual Instructions, misuse, lack of proper protection during storage, or accident.

4. Parts replacement and service necessitated by normal wear or maintenance including, but not limited to, belts, cutting parts, and ground engaging parts.

A DELIVERY REPORT FORM must be filled out and received by HINIKER COMPANY to initiate the warranty coverage.

HINIKER COMPANY
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