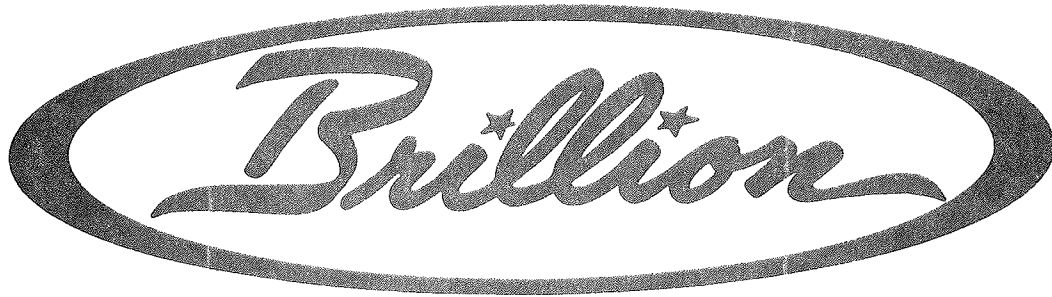


# OPERATOR'S MANUAL



## FIELD CULTIVATOR

MODELS FC-1266 THRU FC-2066  
FC-12661 THRU FC-20661  
FC-1261 THRU FC-2061

**BRILLION IRON WORKS**  
**BRILLION, WISCONSIN 54110**  
A DIVISION OF BEATRICE FOODS CO.

## INTRODUCTION

Your Brillion Field Cultivator is built with the best materials and workmanship available. It has been designed to give years of trouble-free operation, and proper care and operation will insure the service and long life built into it.

Study this manual carefully before attempting to assemble or operate the machine.



This safety alert symbol identifies important safety messages in this manual. When you see this symbol, be alert to the possibility of personal injuries and carefully read the message that follows.

## LOCATION REFERENCE

"Right" and "Left", "Front" and "Rear" refer to operators "Right" and "Left", "Front" and "Rear" when he faces in the same direction as the machine will travel.

## SAFETY INSTRUCTIONS



**CAUTION:** The tractor drawbar must be locked into a fixed position when transporting the field cultivator. The transport link should be installed, for maximum safety, whenever the machine is transported on the road or highway.



**CAUTION:** This field cultivator has been designed to be transported at a maximum speed of 20 m. p. h. **DO NOT EXCEED THIS SPEED.** Slow down when transporting the machine over rough or bumpy ground.



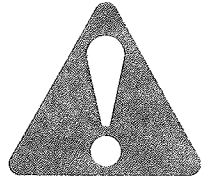
**CAUTION:** This machine is almost balanced for weight in transport position. If it is equipped with the optional hydraulic wing lift or a smoothener harrow, it will be drawbar light. Use caution when unhooking from the tractor drawbar as the drawbar may raise up.



**CAUTION:** Be careful and make sure that no one else is near when raising or lowering the wings. The wings on the larger machines are quite heavy, necessitating either a spring assist kit or a hydraulic wing lift kit.



**CAUTION:** When transporting the field cultivator on a road or highway use adequate warning symbols, reflectors and lights as required.



## SAFETY RULES

Do not grease, oil or adjust the field cultivator while it is in motion.

Never permit any person other than the operator on the tractor.

Never ride or permit others to ride on the field cultivator.

Securely block any hydraulically controlled unit before working on it.

## OPERATING INSTRUCTIONS

It is important to adjust the height of the hitch clevis on the drawbar so that the machine is level in operating position. Failure to level the machine may cause it to seesaw from side to side. An adjustable link is provided for one side of the machine to level the machine from side to side.

The machine operates best at a speed of 3-1/2 to 5 miles per hour. The best speed for any soil condition is that speed at which the teeth flex while the frame remains stable.

The working depth of the tool is controlled by the hydraulic cylinder or a ratchet jack. The cylinder must be equipped with a depth stop. The maximum working depth in any soil condition should not exceed 6-1/2 inches. In wet soil the machine will run deeper and in hard dry soil it will run shallower. The working depth may be checked by a test run at normal working speed.

If the field cultivator is equipped with sweeps, the maximum working depth should be 2 inches. It is very important that the machine be level from front to back in working position. It is necessary to use a half sweep on the shanks at each side of the transport wheel.

If it is necessary to turn or replace a point because of breakage, the entire set should be turned or replaced for uniform working depth. Turn or replace the points before the end of the tooth shank begins to wear off. The points on the shanks which work in the tractor tracks will normally wear faster because of soil compaction.

## LUBRICATION

There are four grease zerks, one in each rockshaft bearing. These zerks should be lubricated daily. The wheel bearings in the transport axle should be repacked once a year. To repack the bearings, remove the hubcap, cotter pin and slotted nut. Use care in pulling off the hub as the seal must drag off the inner bearing cone. Remove the seal if it did not pull out of the hub. If the seal is not damaged slide it back on the spindle, if damaged, replace it with a new one. Clean the bearings and repack with a good grade of wheel bearing grease. Reassemble the hub but do not press the seal into the hub. Tighten the nut while turning the hub until a definite drag is felt on the hub. Back off the nut at least one notch but less than two notches and lock with the cotter pin. Drive the seal back into the hub and replace the hub cap.



## SETTING UP INSTRUCTIONS

Your Brillion Field Cultivator is shipped to you in separate assemblies. Before assembling the unit, separate the various bundles and open the box assemblies, taking care not to lose any of the parts or hardware. (Refer to repair parts catalog for relative location of parts and hardware used to fasten them together.)

Assembly Name	No. Used on Various Widths														
	1266	1299	1366	1466	1439	1566	1599	1666	1766	1739	1866	1899	1966	2066	2039
Center Frame	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Rockshaft	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Axle Assembly - R.H.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Axle Assembly - L.H.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Drawbar	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Cultivator Tooth Assembly	23	17	25	27	19	29	21	31	33	23	35	25	37	39	27
Drawbar Braces	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Box Assembly (Basic)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Wheel (4 bolt - Transport)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Box Assembly (Tooth Points)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Stub Extension, 5-1/2"								2	2	2	2	2	2	2	2
Stub Extension, 10"			2	2					2		2		2	2	
Stub Extension, 17"				2	2						2		2	2	
Wing, R.H. 2 Ft.						1	1	1	1	1	1	1			
Wing, L.H. 2 Ft.						1	1	1	1	1	1	1			
Wing, R.H. 3 Ft.													1	1	1
Wing, L.H. 3 Ft.													1	1	1



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No. Used on Various Widths

Assembly Name	1261	1361	1461	1561	1661	1761	1861	1961	2061
Assembly Name	12661	13661	14661	15661	16661	17661	18661	19661	20661
Center Frame	1	1	1	1	1	1	1	1	1
Rockshaft	1	1	1	1	1	1	1	1	1
Axle Assembly - R.H.	1	1	1	1	1	1	1	1	1
Axle Assembly - L.H.	1	1	1	1	1	1	1	1	1
Drawbar	1	1	1	1	1	1	1	1	1
Cultivator Tooth Assembly	23	25	27	29	31	33	35	37	39
Drawbar Braces	2	2	2	2	2	2	2	2	2
Box Assembly (Basic)	1	1	1	1	1	1	1	1	1
Wheel (5 bolt - Transport)	2	2	2	2	2	2	2	2	2
Box Assembly (Tooth Points)	1	1	1	1	1	1	1	1	1
Stub Extension, 5-1/2"					2	2	2	2	2
Stub Extension, 10"		2	2			2	2	2	2
Stub Extension, 17"			2				2		2
Wing, R.H. 2 Ft.				1	1	1	1		
Wing, L.H. 2 Ft.				1	1	1	1		
Wing, R.H. 3 Ft.								1	1
Wing, L.H. 3 Ft.								1	1

## FRAME, DRAWBAR AND ROCKSHAFT ASSEMBLIES

Place the center frame on blocks with the bottom of the frame at least 20 inches above the ground. Slide the drawbar between the center channels and bolt in place using the 5/8 x 6-1/2" long machine bolts. DO NOT TIGHTEN BOLTS AT THIS TIME. Next bolt on the two drawbar braces connecting the outer channels on the frame with the drawbar, using 1/2 x 2-1/2" long capscrews at the frame end and a 3/4 x 6-1/2" long bolt at the drawbar end. All the bolts on the drawbar and drawbar braces may now be tightened.

Install the hitch clevis with the 1" x 6-1/2" long bolt. Attach the cylinder lug to the drawbar with a 3/4 x 3" long capscrew and stover nut. The hose holder may also be attached at this time with a 5/8 x 2" long capscrew.

Position the rockshaft over the four pads on the center frame, as shown on page 2 of the repair parts catalog, with the arms pointing to the rear and the cylinder arm upward. Coat the inside of the four bearings with grease. Fit the two center bearings between the welded stops on the rockshaft. Place the 5/8 x 2" long capscrews in the four bearings and partially tighten them. Turn the rockshaft a couple of times to make sure it turns freely. After tightening all the bearing bolts, the rockshaft should still turn freely. If any of the bearings bind, place a flat washer as a spacer between the bearing and the pad on the frame.

Next attach the two 8D-367 straps to the insides of the two center channels with 5/8 x 1-1/2" long capscrews. Slip the 3/4 x 2-1/4" long pin into the slots at the other end of the straps. The 2C-458 flat washer and 4C-856 hairpin cotter complete the assembly. When machine is in use, rest these straps on the center tooth bar. When machine is to be transported, remove the hairpin cotter and take the pin out of the slots. Place the cylinder arm on the rockshaft between the straps and fasten with the pin and hairpin cotter.

## ASSEMBLY OF WHEEL AND AXLE ASSEMBLIES

Bolt one of the 8D-310 bearings to the front tooth bar using an 8D-312 strap with two 1/2 x 4" long capscrews. These should be tight against the outer channel as shown in Figure 1. Slide the stub of the axle assembly into the bearing. Slide the other bearing on the axle stub and bolt it to another 8D-312 strap. Allow 1/16 side play of the axle between the two bearings. TAKE CARE WHEN TIGHTENING THE SECOND BEARING TO HAVE THE AXLE ARM PARALLEL TO THE FRAME CHANNEL. Do this by bolting the second bearing snug, but not tight, and then moving the arm parallel to the frame channel. Check by measuring the distance between the axle arm and the channel at both ends. Now tighten the bolts in the second bearing. Connect the straps (8D-313) to the lug on the axle assembly with the 3/4 x 2-1/2" long clevis pin, a flat washer and roll pin. Next, connect the straps to the arm on the rockshaft assembly with the 3/4 x 2-1/2" long clevis pin, a flat washer and 8D-519 clinch pin. The three holes at one end of the straps are for adjustment of depth. In normal use the pin should be in the center hole.

An adjustable link is provided for one side of the machine to enable you to level your machine from side to side in working position. See page 8 of the Repair Parts Catalog. Turn the 9D-7 R.H. screw into the 9D-5 yoke until the two holes are the same distance apart as the single hole and center hole on the straps for the other side of the axle assembly. Connect the screw end to the lug on the axle arm and the yoke end to the arm on the rock shaft. With the machine on level ground and the wings lowered, check the height of the teeth from the ground. Then adjust the yoke on the screw until the machine is level. If machine pulls to one side in operation, either raise the side it pulls toward or lower the opposite side until the machine runs straight.



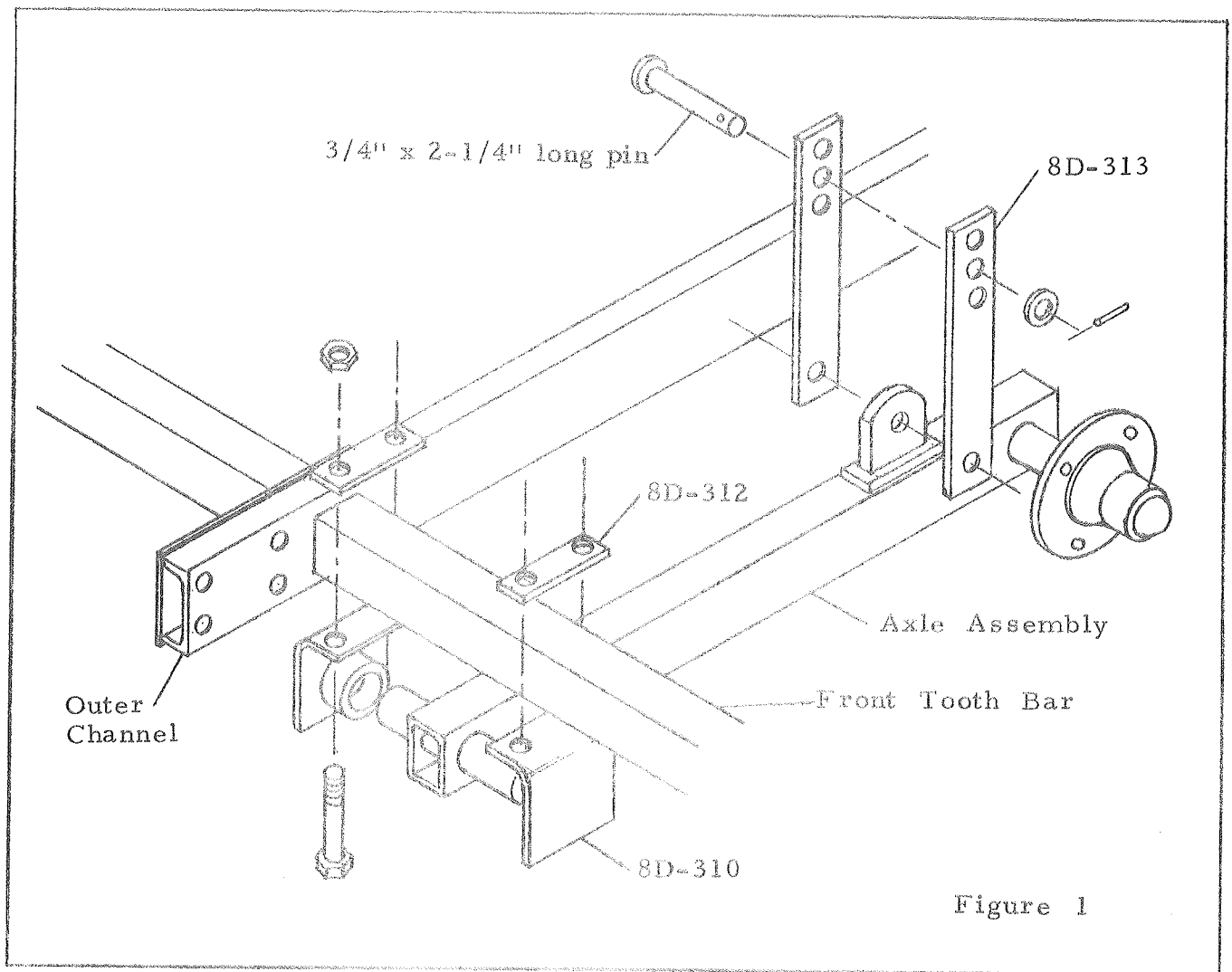


Figure 1

### ASSEMBLY OF MODELS WIDER THAN 12'-6"

Machines wider than the basic 12'-6" model are made up with stub extensions, or wings, or a combination of both. Check pages 6 thru 11 of the operators manual for tooth spacing on various width machines. These layouts also show the proper placement of the wings and extensions.

Attach the wings by sliding the 3/4" x 8" long hinge pins into the hinges and inserting cotter pins to keep the pins from sliding out. If it is desired the wings may be made rigid by bolting thru the holes in the bottom of the hinge with 5/8" x 2" long capscrews. Bolt on the shanks with 1/2" x 4" long carriage bolts as shown in Figure 2. Check the clearance of the tire and axle arms by slowly extending and retracting the hydraulic cylinder or ratchet jack. The machine was designed to use 6:70/15 tires. The maximum tire size which can be used is 7:60/15.

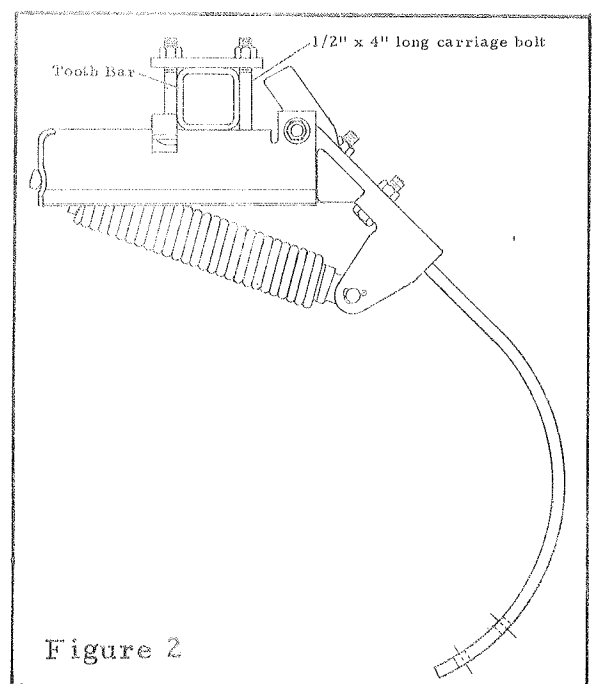
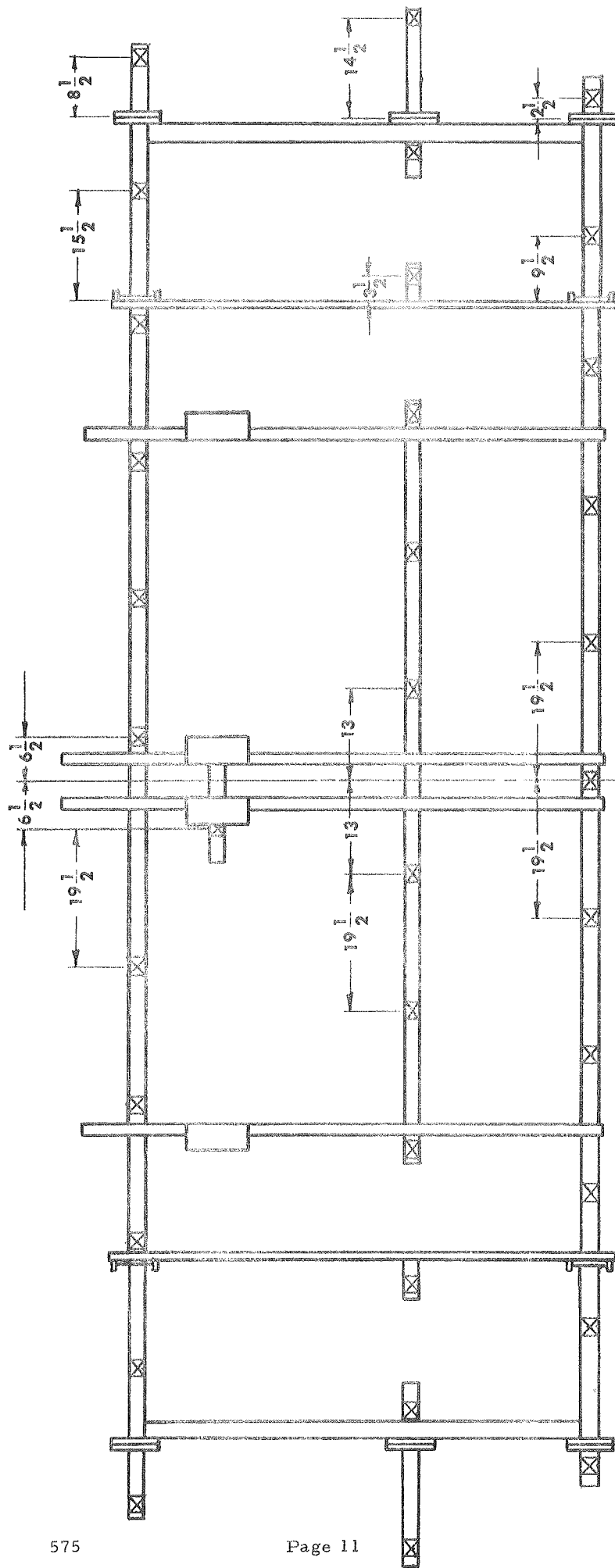


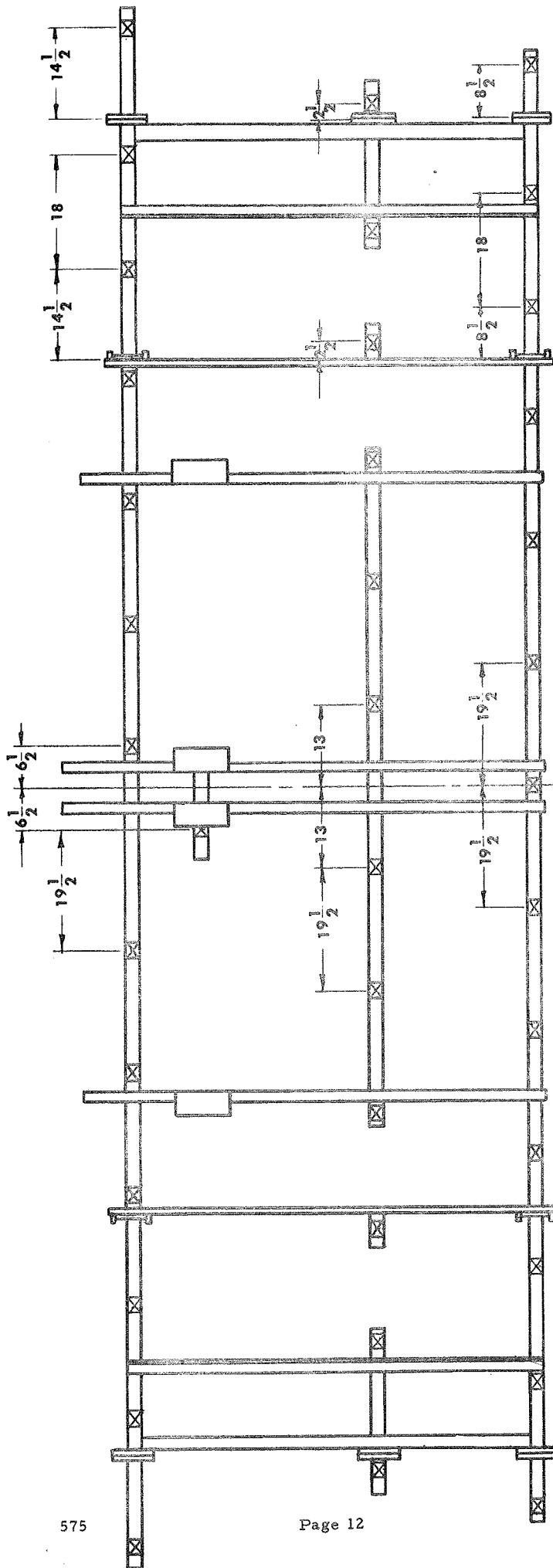
Figure 2





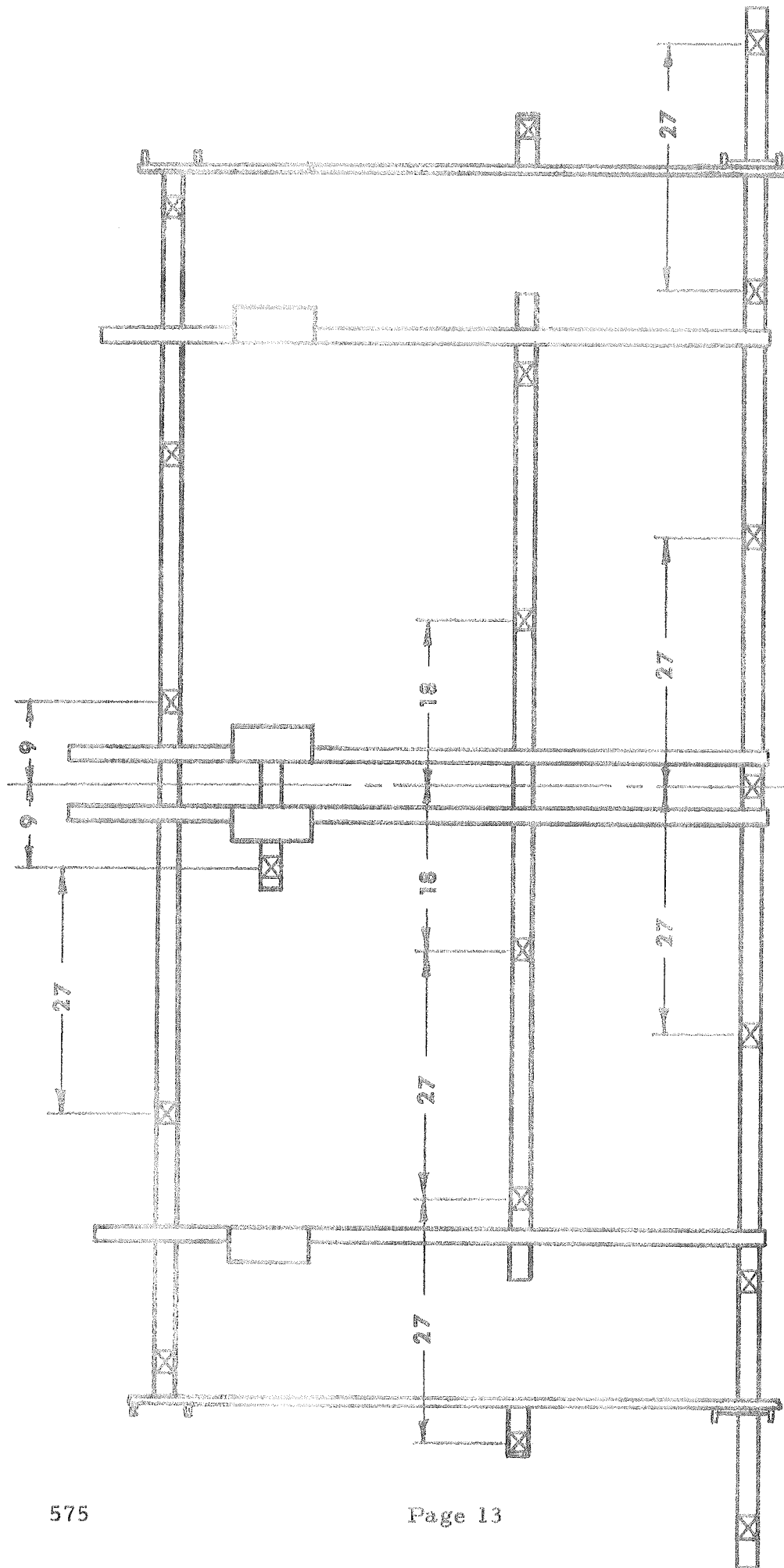
REAR

6" TOOTH SPACING FOR 15'-6", 16'-6",  
17'-6" and 18'-6" MACHINES



REAR

6" TOOTH SPACING FOR 19'-6"  
and 20'-6" MACHINES



REAR

9" TOOTH SPACING FOR 12'-9"  
and 14'-3" MACHINES





## OPTIONAL EQUIPMENT

### Spring Wing Assist

Can be used to assist in manually raising the wings. Not recommended for units over 18-1/2 feet wide.

### Hydraulic Wing Lift

Can be used on any folding unit. Raises wings to the vertical position. Reduces overall width to 16-1/2 feet for transport. A standard 8" cylinder (not furnished) is required for operation.

### Wing Support Kit

This is required if the wings are to be folded and neither of the above kits are used.

### Replacement Points

Most points with a 1-3/4" or 2" hole center for 7/16 plow bolts will fit.

## WARRANTY

Your warranty on this machine is explained on a separate card that is packed with this manual.