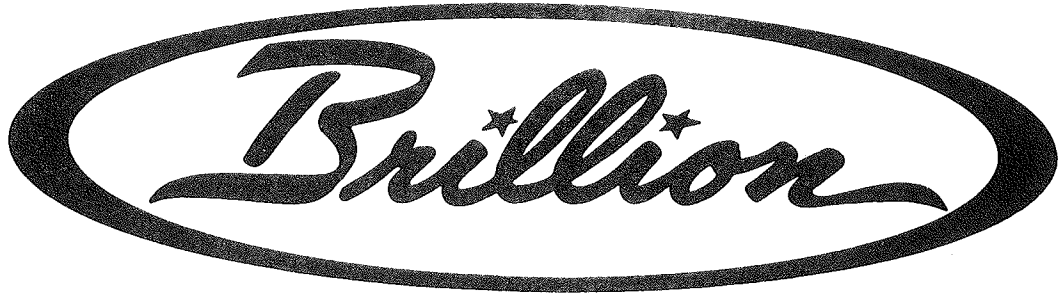


OPERATOR'S MANUAL



FIELD CULTIVATOR

MODELS FCP-1266 THRU FCP-2066
FCP-12661 THRU FCP-20661



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



SETTING UP AND OPERATING INSTRUCTIONS
FOR BRILLION FCP SERIES FIELD CULTIVATORS

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.

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.

MOUNTED FIELD CULTIVATOR SPECIFICATIONS

<u>Model No.</u>	<u>Overall Width</u>	<u>No. of Teeth</u>	<u>Weight</u>
FCP-1266	12'-6"	23	1202.0
FCP-1366	13'-6"	25	1270.0
FCP-1466	14'-6"	27	1342.0
FCP-1566	15'-6"	29	1486.0
FCP-1666	16'-6"	31	1554.0
FCP-1766	17'-6"	33	1626.0
FCP-1866	18'-6"	35	1704.0
FCP-1966	19'-6"	37	2330.0
FCP-2066	20'-6"	39	2386.0

Teeth - - - - - 1/2 x 1-3/4 x 26-3/8 long Hole spacing on 2"
Heat treated alloy spring steel centers for 7/16"
bolts

Tooth Spacing- - - - 6-1/2"

Working Depth - - - 2" to 6-1/2" - controlled by gauge wheels and 3 point
hitch mechanism

Gauge Wheels- - - - 15" - 4 bolt (standard); 14" - 4 bolt (optional)

Wheel Bearings- - - Tapered Roller

SETTING UP INSTRUCTIONS

Your Brillion Mounted 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 faster them together.)

Assembly Name	No. Used on Various Widths									
	1266	1366	1466	1566	1666	1766	1866	1966	2066	
Center Frame	1	1	1	1	1	1	1	1	1	1
Brace Bundle (82" long rods)	1	1	1	1	1	1	1	1	1	1
Brace Bundle (70" long rods)	1	1	1	1	1	1	1	1	1	1
Mast	1	1	1	1	1	1	1	1	1	1
Cultivator Tooth Assembly	23	25	27	29	31	33	35	37	39	
Box Assembly (Basic)	1	1	1	1	1	1	1	1	1	1
Box Assembly (Tooth Points)	1	1	1	1	1	1	1	1	1	1
Stub Extension, 5-1/2"		2	2	2	2	2	2			
Stub Extension, 10"			2			2	2			
Stub Extension, 17"							2			
Wing, 18"				2	2	2	2			
Wing, 4 Ft.								2	2	
Lift Arm								2	2	
Center Bracket								1	1	
Link Bundle								1	1	
Box Assembly								1	1	
Wing Stop								2	2	
Wing Lift Bracket								2	2	
Gauge Wheel Assembly, L. H.								1	1	
Gauge Wheel Assembly, R. H.								1	1	
Wheel (4 bolt)								2	2	
Hinge Kit								1	1	

FRAME, MAST AND BRACE ASSEMBLY

Place the center frame on blocks with the bottom of the frame at least 8 inches above the ground and the small lugs near each corner on top. Bolt the mast bracket to the front with $5/8 \times 1-1/4$ " long capscrews. (See page 2 of the repair parts catalog for correct positioning of the mast.) Turn a $3/4$ " nut to the end of the threads on the four brace rods. Slide a $3/4$ " lockwasher on the rods and push the end of the rods thru the lugs at each corner of the frame with the longer braces to the rear of the machine. Place the 1" dia. $\times 2-1/2$ " long spacer between the straps on the mast bracket, then fit the straps of the brace rods to the top hole of the mast with the straps of the longer brace rods to the inside. Bolt this together with a 1" $\times 6-1/2$ " long machine bolt and locknut. Now slide another $3/4$ " lockwasher on the ends of the brace rods and turn on another $3/4$ " nut until all rods are snug. Check to be sure the mast bracket is 90° with the frame from side to side. Adjust the brace nuts until the mast bracket is at 90° , then turn the inner nuts down to the lugs until everything is locked tight.

Next, bolt the hitch lugs on the short front bar using the 8D-585 plate on top of the bar and $1/2 \times 4-1/2$ " long capscrews. See page 6 of the operators manual for the spacing of the lugs to fit the desired hitch category. Place the $1-1/4$ O.D. $\times 1-15/16$ sleeve between the straps of the mast and hold in place with the 1" $\times 4-1/2$ " long clevis pin and a Klik pin. The sleeve is placed at the bottom hole in the mast for Category II quick couplers. The middle hole is used for Category II free link hitches and Category III quick couplers. The top hole is used only for Category III free link hitches.

Place the $1-7/16$ O.D. $\times 2-7/8$ " long sleeves between the straps of the hitch lugs and hold in place with the $1-1/8 \times 5$ " long clevis pins and Klik pins. The sleeves are used for the Category III free link hitches and all quick couplers. If your machine is the basic 12'-6" center section, you can now bolt on the shank assemblies. Check page 6 of the operators manual for location of the shanks.

ASSEMBLY OF MODELS WIDER THAN 12'-6"

For the 13'-6" and 14'-6" models, bolt stub extensions to the side plates with $5/8 \times 1-3/4$ " long capscrews. Page 6 shows the location of the stubs and the shanks which are bolted on them.

On machines 15'-6" to 18'-6" wide without the optional wing hinge kit, bolt the 18" wing to the side plates with $5/8 \times 2$ " long capscrews, making sure the center stub toothbar is in line with the center toothbar of the main section. Check page 7 for location of the shanks and stub extensions.

On machines with the optional wing hinge kit, bolt a hinge casting to each end of the side plates with $5/8 \times 2$ " long plow bolts. Bolt a hinge casting to the square plates on the ends of the wings with the $5/8 \times 2$ " long plow bolts. Then put the $3/4 \times 6$ " long hinge pins thru the interlocking lugs of the hinge castings and fasten with the cotter pins. If it is desired, the wings may be made rigid by bolting thru the holes in the bottom of the hinge with $1/2 \times 2$ " long capscrews (not furnished).

Machines 19'-6" and 20'-6" wide have wing hinges, gauge wheels and hydraulic wing lifts as standard equipment. Assemble the center section as indicated for the smaller machines. Bolt the hinge castings to the ends of the side plates on the center sections and wing sections with the $5/8 \times 2$ " long plow bolts. Insert the hinge pins thru the interlocking lugs of the hinge castings and fasten with the cotter pins.

ASSEMBLY OF HYDRAULIC WING LIFT

Before attempting to install the hydraulic wing lift, study the illustration on page 10 of the repair parts catalog to identify and locate the various parts.

Set the center bracket on the rear tooth bar of the center frame and bolt it loosely to the bar with 8D-312 straps and 1/2 x 4-1/2" long capscrews. Adjust it until the bracket is accurately centered from side to side and then tighten the bolts. Fasten the lift arms to the center bracket with 1" x 2-1/4" clevis pins, flat washers and 3-9/16" long hairpin cotters. Attach the end of the link assembly with the single lug between the lift arm with 3/4 x 3" long capscrews and locknuts. DO NOT TIGHTEN THE NUT COMPLETELY. Allow 1/16 to 1/8" total clearance between the lug and the lift arm. Bolt the other end of the link assembly to the wing lift bracket with 3/4 x 3" long capscrews and locknuts. Do not tighten the nuts completely, to permit the joint to pivot freely. Now, with the wings down, set the wing lift brackets on the wing rear tooth bars. Bolt them loosely to the bars with 8D-312 straps and 1/2 x 4-1/2" long capscrews. Slide the brackets toward the hinges until the distance between the hole centers on the lift arm lugs is 28-1/2 inches. (If a cylinder or ratchet jack of the standard dimension is available, it may be used as a spacer to adjust the location of the wing brackets.) Both brackets must be the same distance from the hinges. Now tighten the brackets on to the bar.

Bolt the wing stop brackets on the middle tooth bar of the center section as close to the sideplate as possible using the 8D-312 straps and 1/2 x 4-1/2" long capscrews. When the wings are raised, the pad on the wing stop touches the middle tooth bar of the wing and prevents it from going beyond the vertical position. The straps on the wing stop straddle the tooth bar and provide a means of locking the wings in transport position. A 1/2 x 4" long clevis pin and 2-11/16" long hairpin cotter lock the wings.

A standard agricultural, 8" stroke, double-acting, hydraulic cylinder (NOT FURNISHED) is required to operate the hydraulic lift. It should be a minimum of 2-1/2" in diameter and be equipped with hoses approximately 140" long.

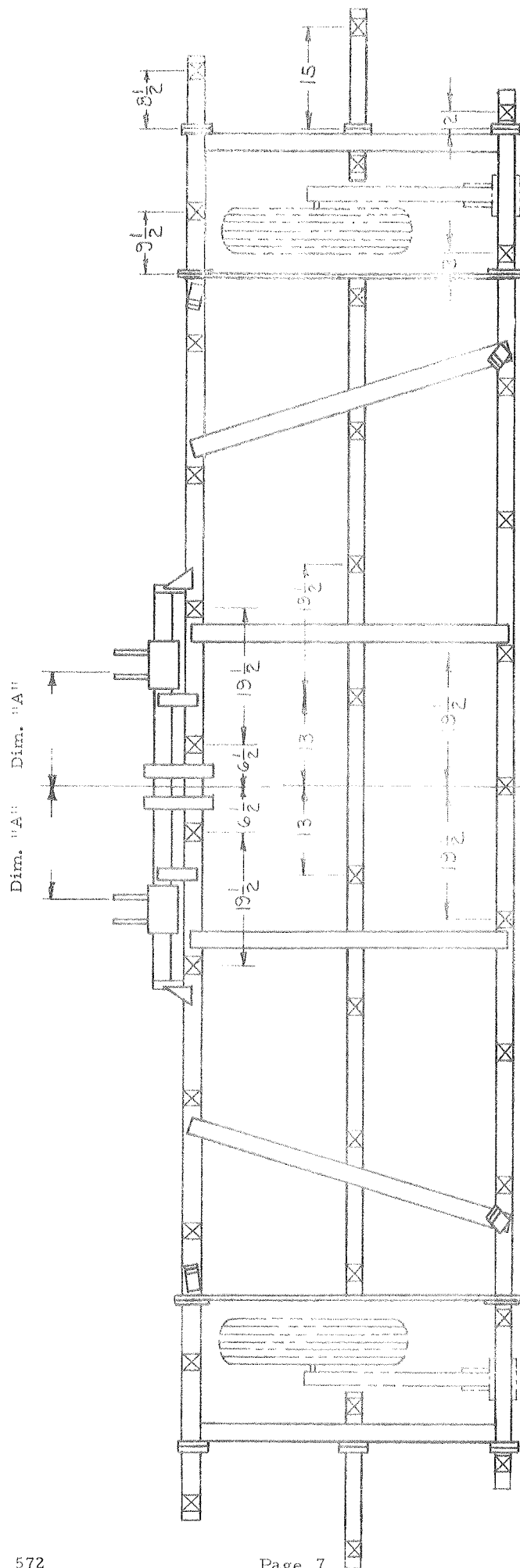
Mount a flow restrictor valve in the cylinder rod-end port to control the speed at which the wings are lowered.

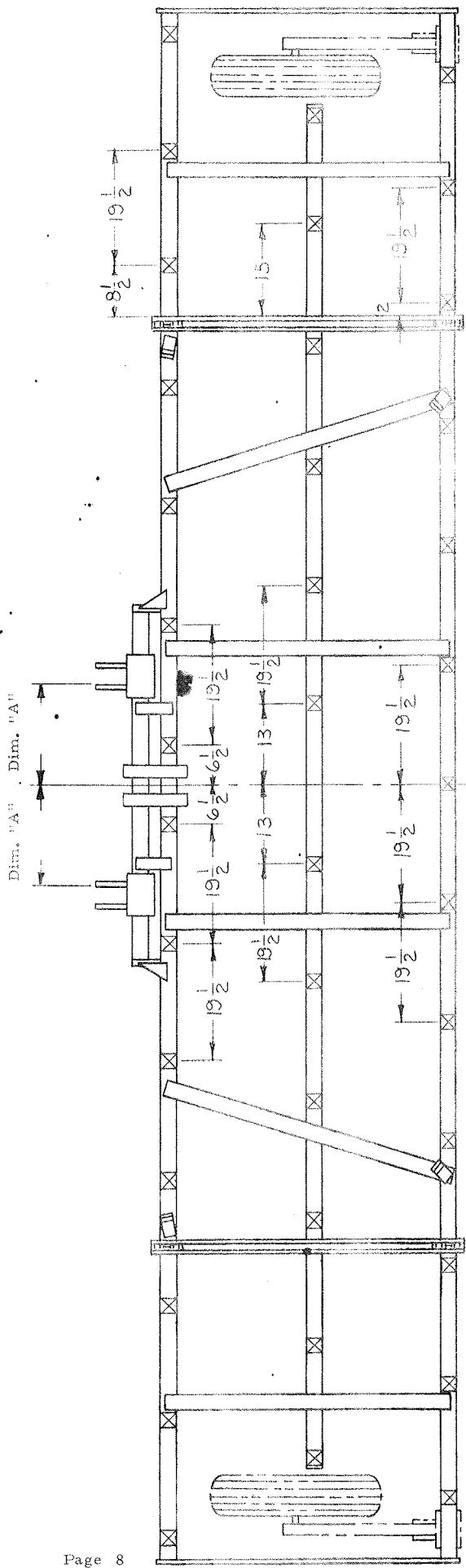
If the machine is not on level ground when the wings are raised or lowered, one wing may raise or lower part way or all the way before the other wing begins to move. Do not allow anyone to stand near the machine when the wings are being raised or lowered. Always install the wing lock pins before transporting the machine or storing it with the wings in transport position. Now bolt on the shanks as located on page 8 of the operators manual.

ASSEMBLY OF GAUGE WHEELS

Bolt the gauge wheels to the rear tooth bar using 8D-580 straps and 5/8 x 4-1/2" long capscrews. See page 8 of the operators manual for the location of the wheels. Check to be sure the shanks will clear the gauge wheel when in operation. The location of the wheel support on the rear tooth bar varies slightly depending upon the width of the tire. The gauge wheels were designed to use 5:90 x 15 tires, but 6:70 x 15 tires may be used. To prevent rusting of the threads of the turnbuckle adjusting screws, extend the screws full length and coat with grease.

On machines 15'-6" to 18'-6" wide, with optional gauge wheels, see page 7 of the operators manual for location. If the tire being used is larger than 5:90 x 15, it is necessary to change the location of the shank near the wheel slightly to provide clearance for the tire.





Category II Dimension "A" = 16 3/16"

Category III Dimension "A" = 19"

19'-6" AND 20'-6" MACHINES

MAINTENANCE

After several hours of operation, go over the machine and tighten all nuts which might be loose. Daily or periodic checks should be made thereafter. Repack the gauge wheel bearings at the start of each season.

OPERATING INSTRUCTIONS

It is important to adjust the lift arms and the upper link on the tractor so that the machine is level in operating position. Failure to level the machine or operating it at too high a speed will cause it to seesaw from side to side. The best range of operating speed is from 3 to 5 miles per hour depending on soil conditions.

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 of the shanks which work in the tractor tracks will normally wear faster because of soil compaction.

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. It is necessary to use a half sweep on the shanks at each side of the gauge wheel.

SAFETY

A field cultivator is a simple machine, but it must be operated in a prudent manner.

1. Never turn corners at a high rate of speed.
2. Securely block up the machine before working under it.
3. Be certain no one is near when lowering or raising the machine or wings.
4. Never allow passengers to ride on the field cultivator.
5. Display the slow moving vehicle emblem when traveling on roads.
6. When traveling on the road at night, accessory warning lights should be mounted on the machine.

