

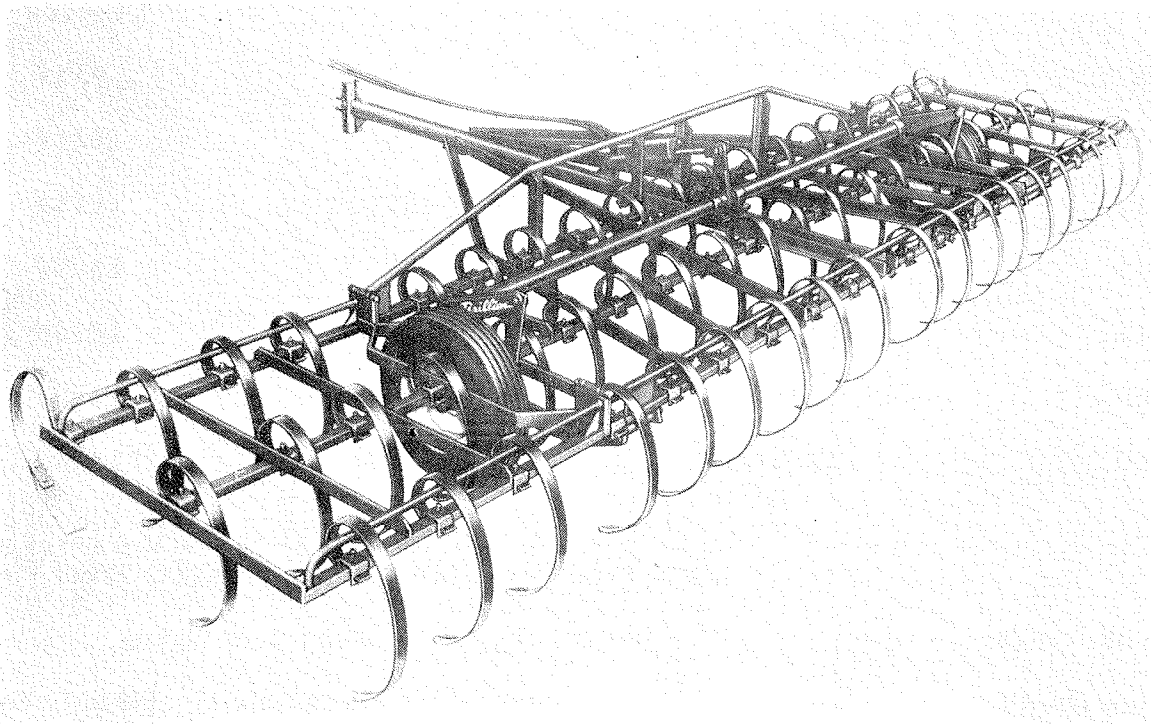
OPERATOR'S MANUAL

Brillion

MODELS STH-8 THRU STH-20

SPRING TOOTH HARROW

MODEL STH-05



BRILLION IRON WORKS, INC.
BRILLION, WISCONSIN

SETTING UP INSTRUCTIONS

Your Brillion Model STH Spring Tooth Harrow is shipped to you in separate assemblies. These assemblies are:

Assembly Name	Number Used On						
	STH-8	STH-10	STH-12	STH-14	STH-16	STH-18	STH-20
1-Rock Shaft Assembly	1	1	1	1	1	1	1
2-Axle Assembly L. H.	1	1	1	1	1	1	1
3-Axle Assembly R. H.	1	1	1	1	1	1	1
4-Main Frame Assembly	1	1	1	1	1	1	1
5-Side Frame Assembly L.H.				1	1	1	1
6-Side Frame Assembly R.H.				1	1	1	1
7-Frame Angle Bundles	2	2	2	2	2	2	2
8-Drawbar	1	1	1	1	1	1	1
9-Spring Tooth Bundles	3	4	4	5	6	6	6
10-Bag Assemblies	2	2	2	3	3	3	3
11-Wheels	2	2	2	2	2	2	2

Before starting to assemble the spring tooth harrow, separate the various bundles, and open the bag assemblies, taking care to lose none of the parts or hardware.

NOTE: REFER TO REPAIR PARTS CATALOG FOR IDENTIFICATION OF PARTS

ASSEMBLY OF MAIN FRAME & AXLES

Block up the corners of the main frame about 12" off floor. Attach the 2D-371 drawbar to the center frame assembly, using four 5/8" x 1-3/4" long heat treated cap screws, securing with lock nuts. The hydraulic cylinder mounting lug should be pointing upward.

Attach the 2D-355 and 2D-356 frame angles to the rear holes of the drawbar plates using 1/2" x 1-1/2" long hardened cap screws, lock washers and lock nuts. Attach these angles to the main frame tooth bars, using six 2D-338 straps (4-1/8" long) and 1/2" x 2-1/2" long cap screws. These angles should be approximately parallel to the long reinforcement bars running diagonally across the frame in the 10' and 12' main frames.

ON THE 12 FOOT MAIN FRAME, attach the 2D-366 and 2D-367 frame angles to the front holes of the drawbar plates using 1/2" x 1-1/2" long hardened cap screws, lock washers and lock nuts. Attach these angles to the main frame tooth bars using six 2D-338 straps (4-1/8" long) and 1/2" x 2-1/2" long cap screws. These angles should also be approximately parallel to the long reinforcement bars running diagonally across the frame.

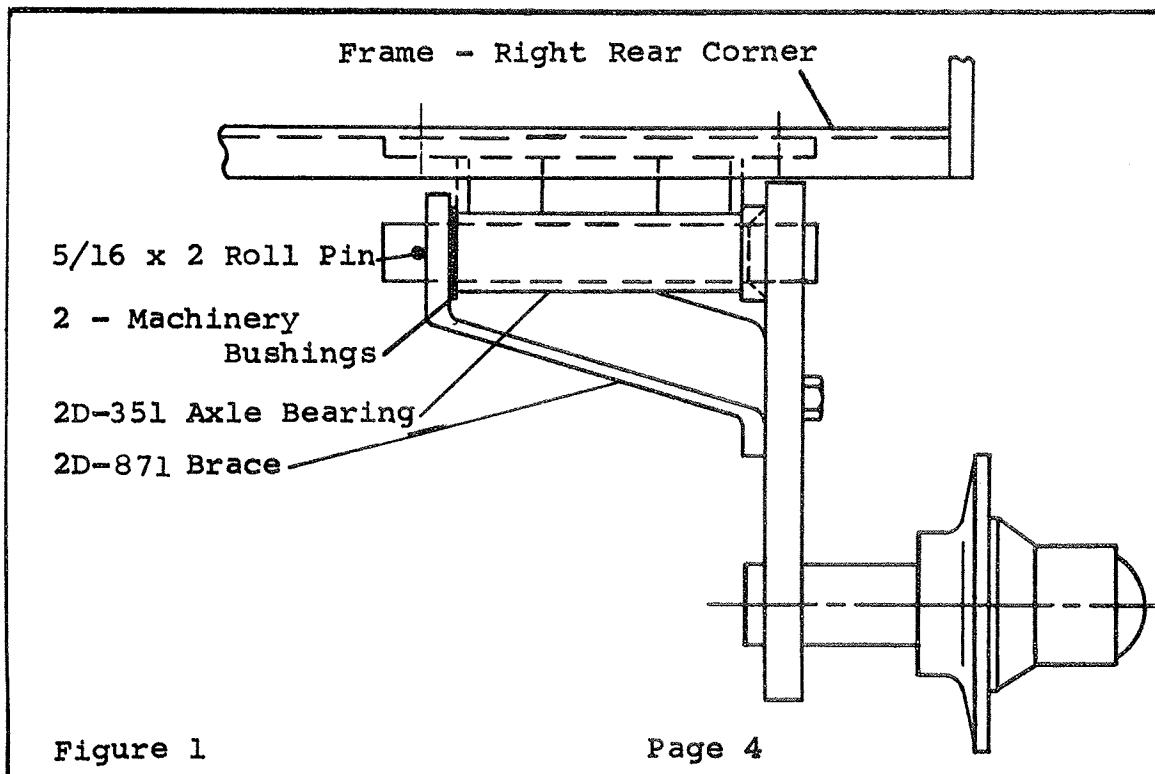
ON THE 10 FOOT MAIN FRAME, attach the 2D-453 and 2D-454 frame angles to the front holes of the drawbar plates using 1/2" x 1-1/2" long heat treated cap screws lock washers and lock nuts. Attach these angles to the main frame tooth bars using four 2D-338 straps (4-1/8' long) and 1/2" x 2-1/2" long cap screws, lock washer and nuts. These angles should be approximately parallel to the long reinforcement bars running diagonally across the frame.

ON THE 8 FOOT MAIN FRAME, attach the 3D-496 and 3D-497 frame angles to the front holes of the drawbar plates, using 1/2" x 1-1/2" long hardened cap screws lock washers and lock nuts. Attach these angles to the front main frame tooth bar, using two 2D-338 straps (4-1/8' long) and 1/2" x 2-1/2" long cap screws, lock washers and lock nuts.

Assemble the rock shaft centered on the main frame, to the main frame, using the four 3D-543 bearing clamps and 1/2" x 1-1/2" long hardened cap screws, lock washers and lock nuts.

ASSEMBLY OF WHEELS & AXLES

Assemble the 2D-351 axle bearings under the rear tooth bar at each end, using 1/2" x 1-1/2" long cap screws, lock washers and lock nuts. Assemble the 3D-538 and 3D-539 axle assemblies to the axle bearings, referring to Figure 1 for the order in which the parts are assembled. Assemble the axle shaft into the 2D-351 axle bearing from the outer end. Place two machinery bushings (#18 GA x 1-1/2" I. D. x 1-7/8 O. D.) on the shaft up against the axle bearing. Assemble the 2D-871 brace onto the shaft and secure with a 5/16" x 2" long roll pin. Complete the assembly by bolting the brace to the axle arm using a 3/4" x 2-1/4" long cap screw, lock washer and nut, with the head of the cap screw toward the wheel hub side.



Attach the 3D-593 lift link to the rock shaft, placing the single end between the lift arms, securing it with a 3/4" x 1-7/8" long clevis pin, washer and cotter pin, with the head of the clevis pin toward the outside of the machine. Attach the other end of the lift link to the lug on top of the axle arm, securing it with a 3/4" x 1-7/8" long clevis pin, washer and cotter pin, with the head of the clevis pin away from the wheel hub.

Repeat the above procedure for the opposite side of the machine.

Mount the wheels on the wheel hubs, using the wheel bolts provided.

NOTE: Use 7.50 x 14 or 7.00 x 14 tires.

Attach the 3D-798 quick hook-up attachment to the cylinder lift arm using the 1/2" x 1-3/4" cap screw and lock nut. Do not draw the nut up tight; leave just enough looseness to permit the attachment to swing freely.

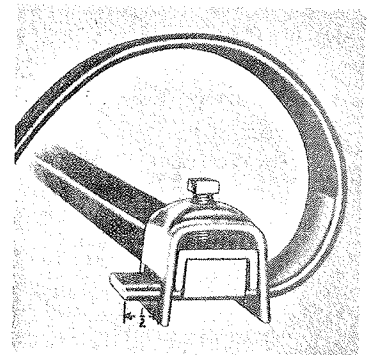
MOUNTING SIDE FRAMES

Mount side frames on the main frame, using 3/4" x 5 1/2" long clevis pins through the hinges, taking care that the heads of the pins extend toward the outside of the machine. Secure with 3/4" flat washers and 1/8" cotter pins.

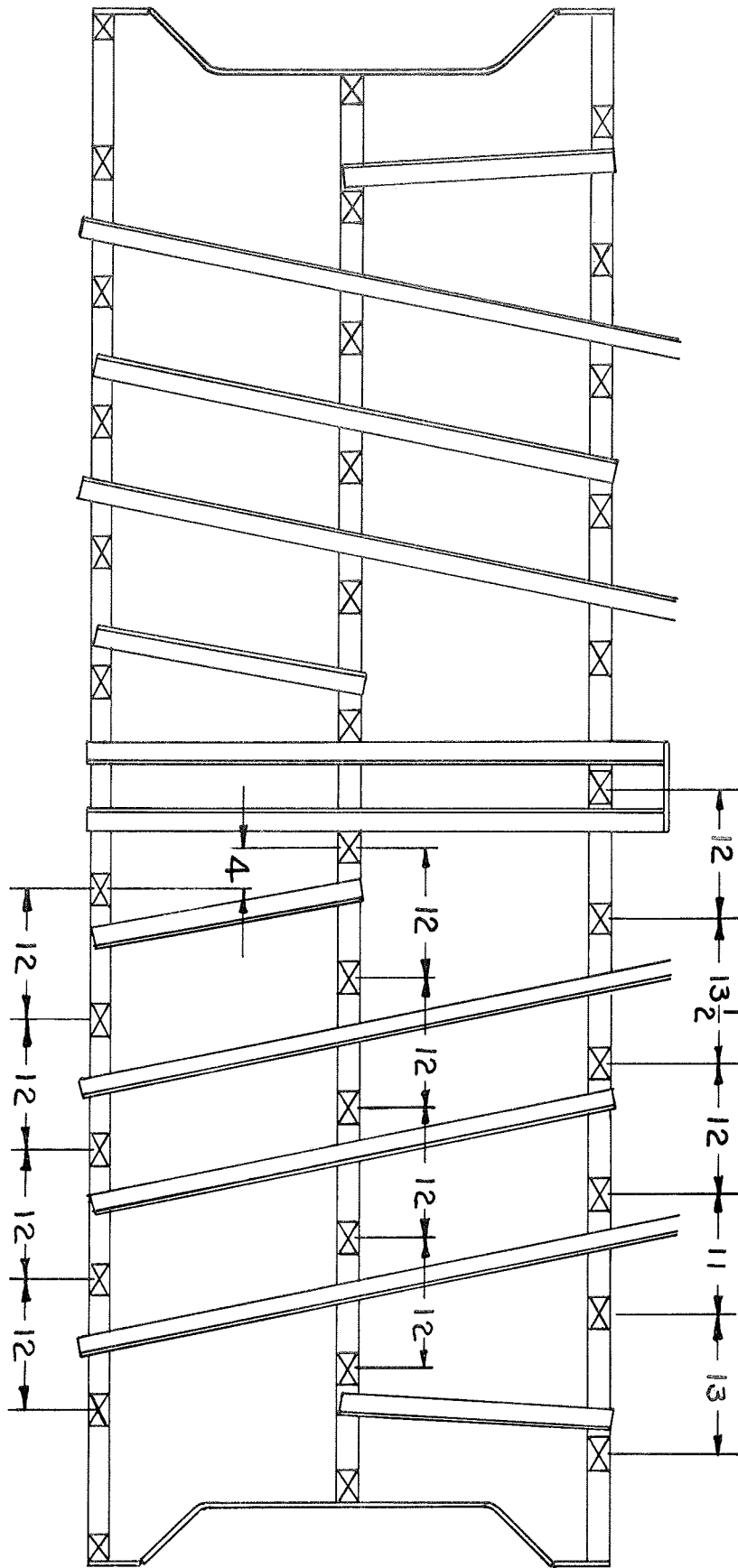
Attach the 2D-359 support springs to the tooth bars at the outer front corners of the side frames, using the tooth clamps and locking blocks. The support spring should extend 3/4" through the clamp. Tighten securely with the set screw. Attach the 2D-360 skid to the support spring using 3/8" x 1 1/2" long plow bolts, lock washers and nuts.

ATTACHING SPRING TEETH

Attach the spring teeth to the tooth bars at the points indicated in the following figures. The end of the tooth should project through the tooth clamp about 1/2". Place 2D-362 tooth locking blocks under the tooth bars when attaching teeth. Draw set screws down until locking block is tight between tooth and tooth bar. Retighten after an hour's use and check daily thereafter.

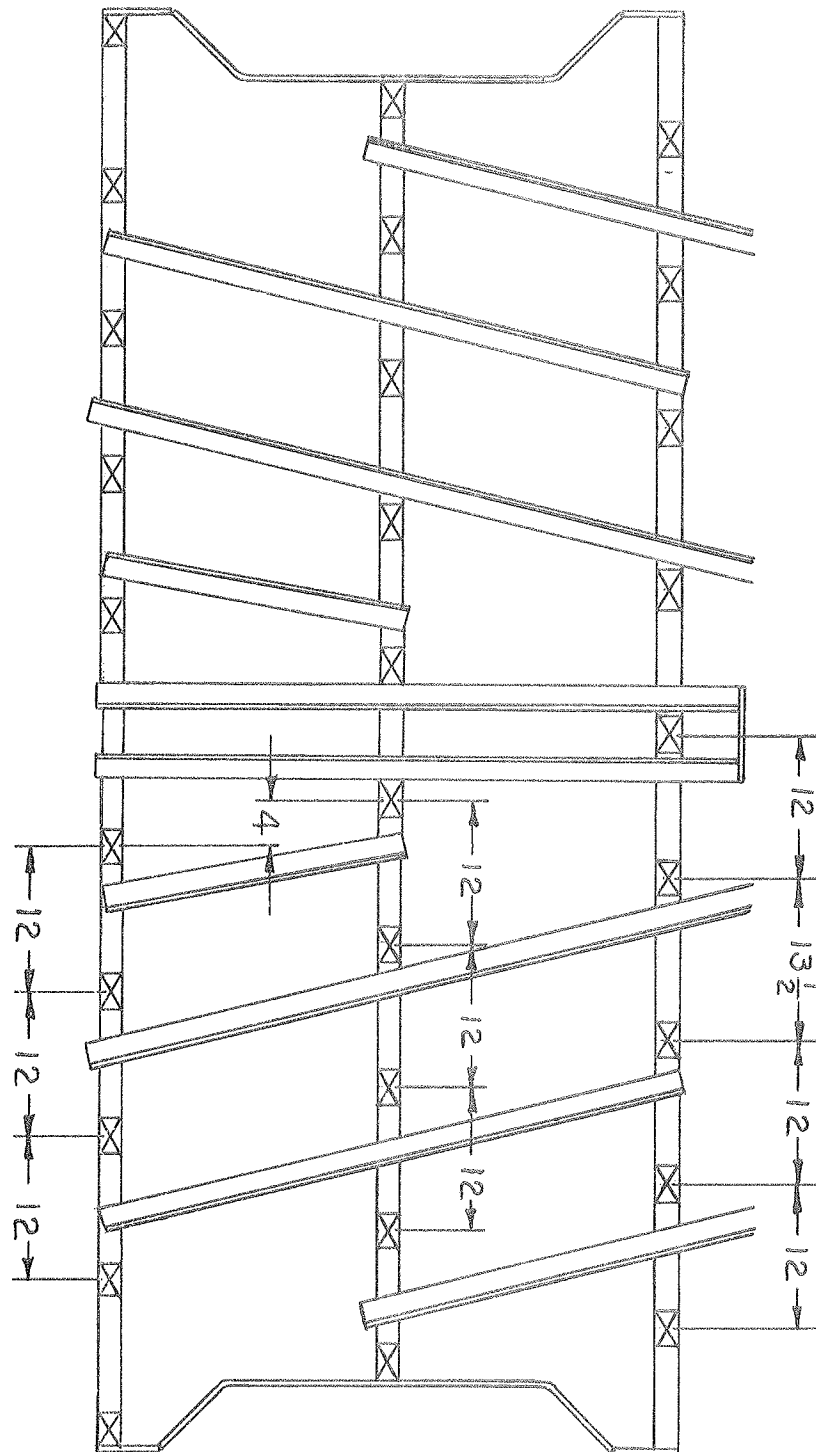


Note: Use the two 2 1/2" wide clamps on the right and left positions on the rear bar of the center section.



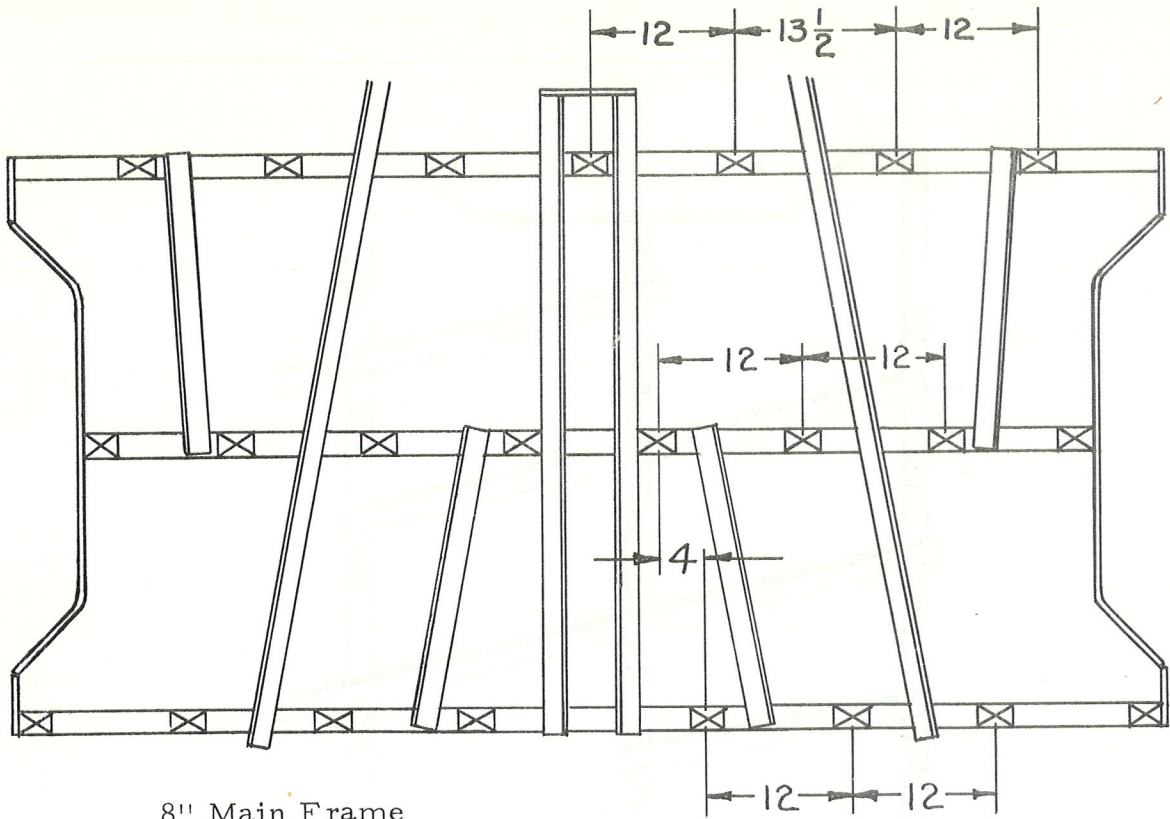
12' Main Frame

☒ 4" Tooth Spacing

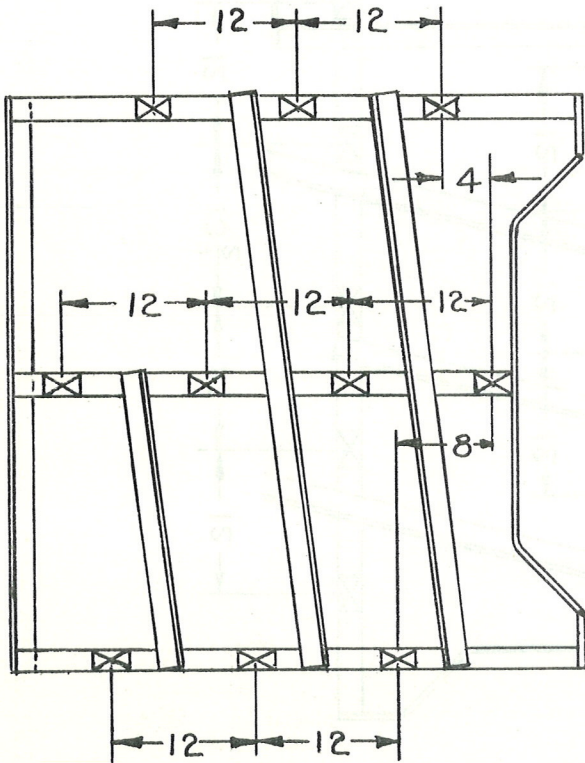


10' Main Frame

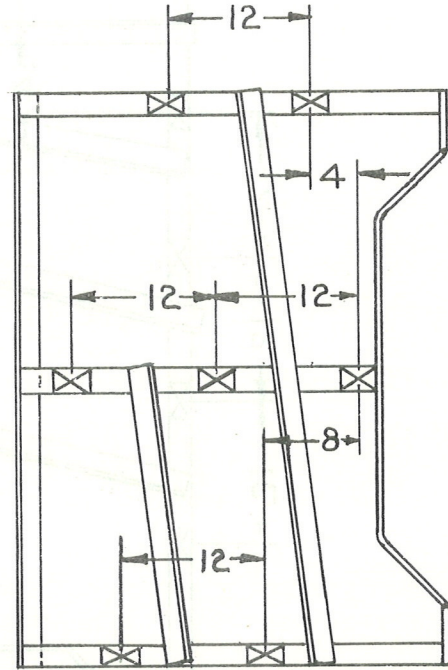
☒ 4" Tooth Spacing



8" Main Frame

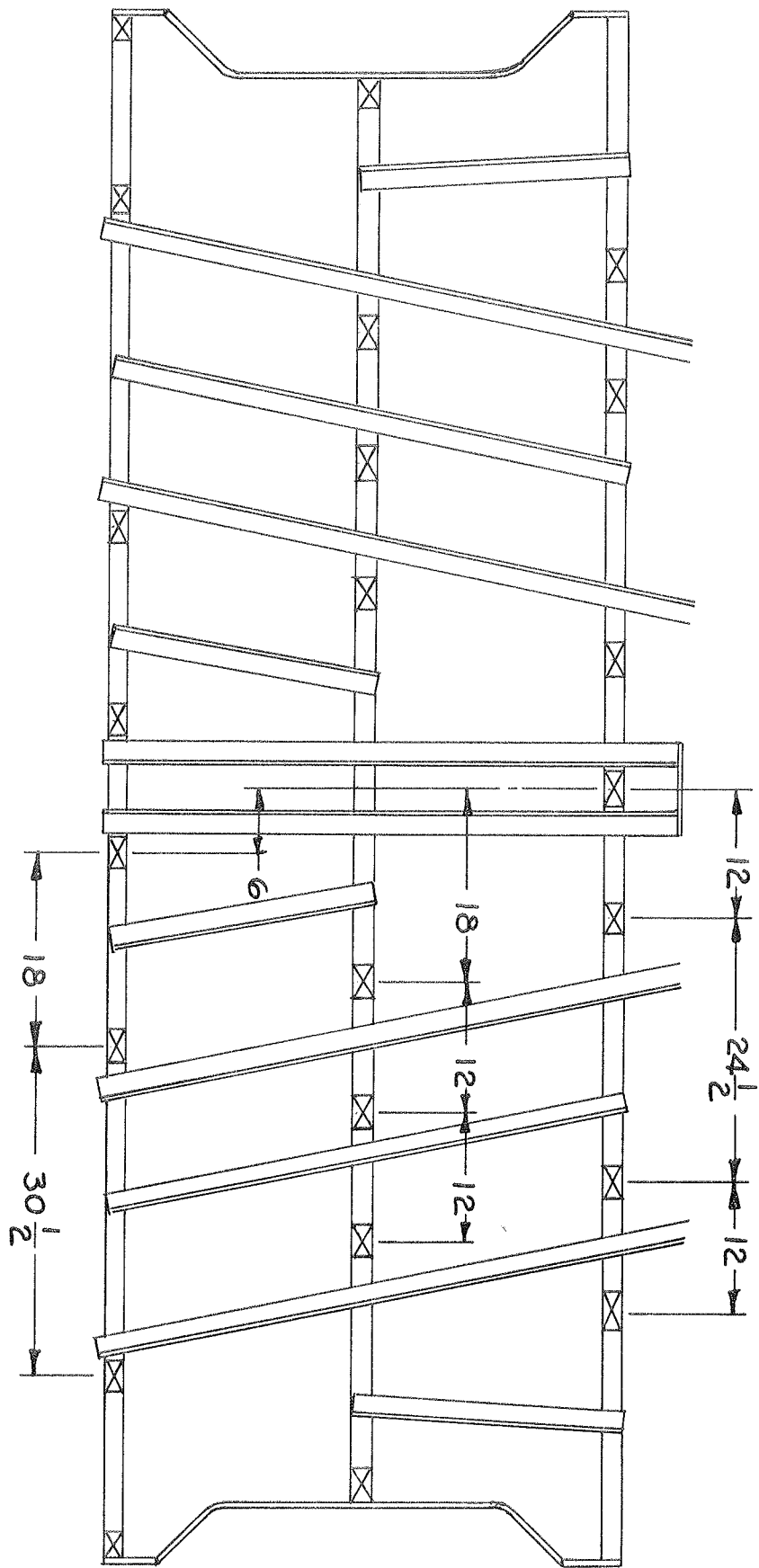


4' Side Frame - Left Mounting
Right Mounting Opposite



3' Side Frame - Left Mounting
Right Mounting Opposite

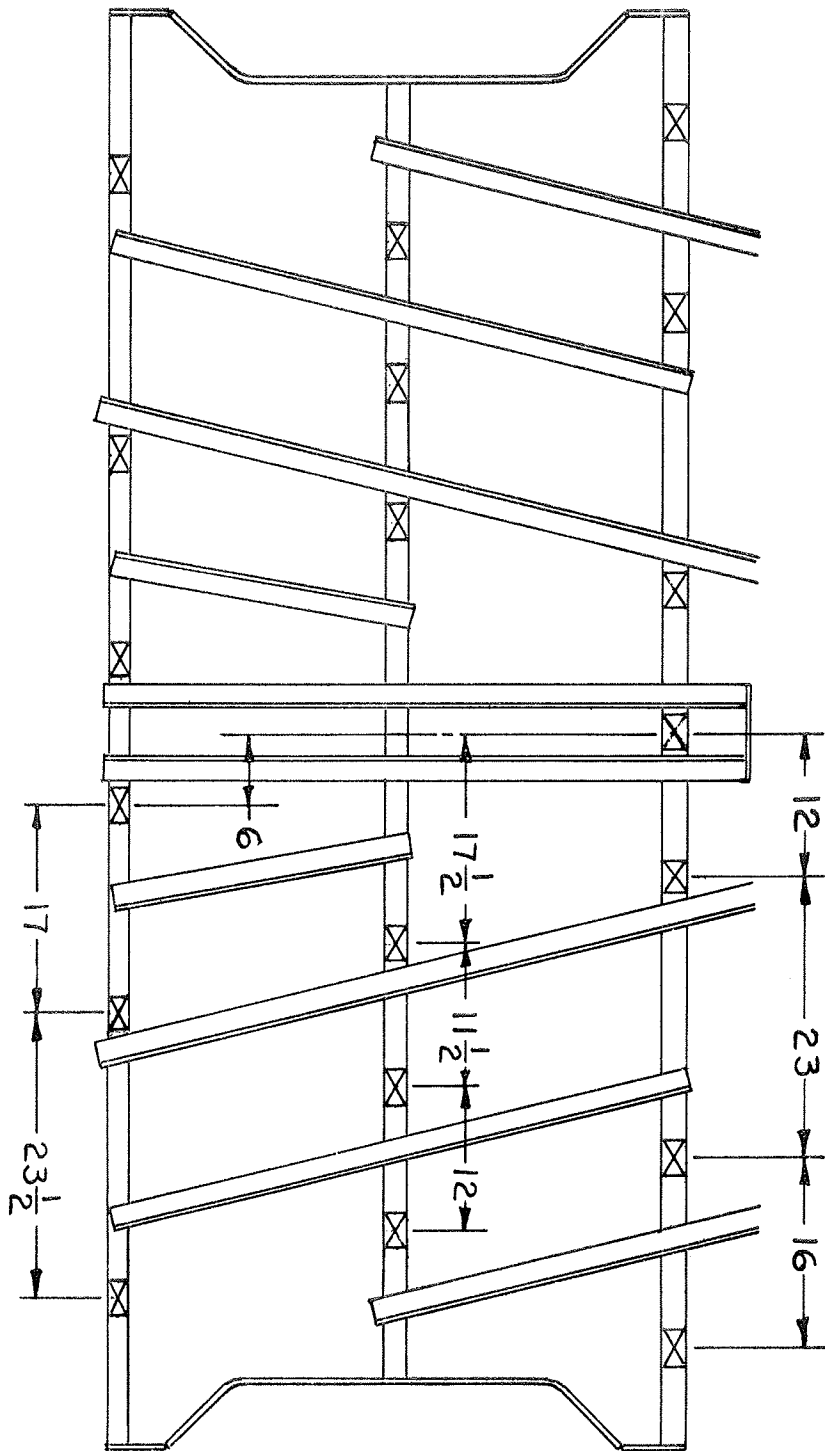
⊗ 4" Tooth Spacing



12' Main Frame



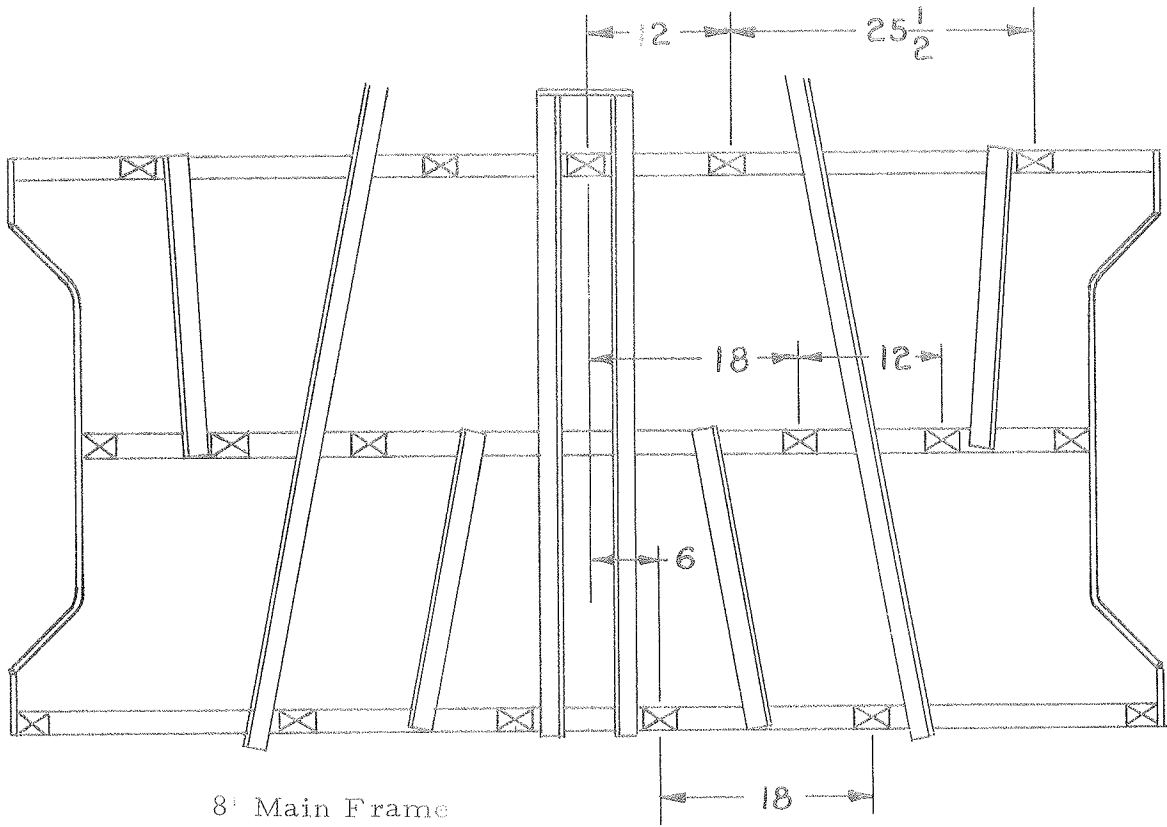
6" Tooth Spacing



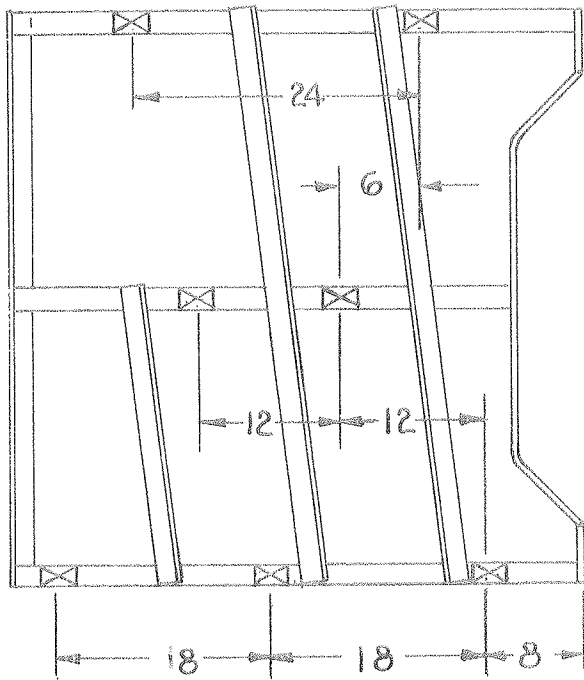
10' Main Frame



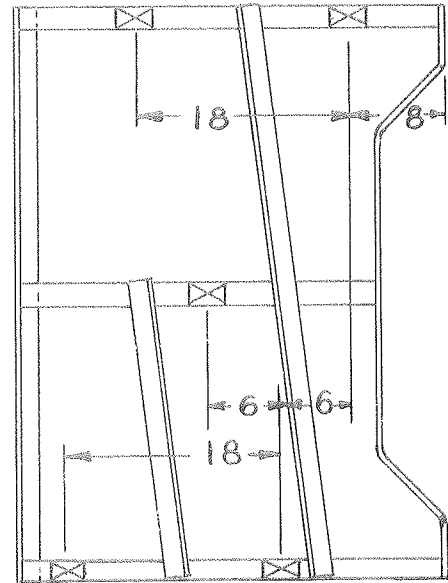
6" Tooth Spacing



8' Main Frame



4' Side Frame Left Mounting
Right Mounting Opposite



3' Side Frame Left Mounting
Right Mounting Opposite

☒ 6" Tooth Spacing

2D646



3 KEYS TO SAFETY

1. KEEP HANDS AWAY FROM WING HINGES
2. LOWER WINGS WITH CAUTION -- DON'T DROP
3. FRONT SKID SPRING MAKES A SAFE HANDLE.



OPERATING INSTRUCTIONS

Depth Control

Working depth is controlled by the setting on the hydraulic cylinder. Once the depth is determined, the harrow is leveled by adjusting the drawbar clevis in the drawbar.

The working depth of the side frames, on harrows 14' and wider, is easily adjusted. Just position the adjusting bar bolt in the bolt hole most suitable to give the desired depth.

Transporting the harrow

Raise the harrow for transport by extending the hydraulic cylinder to its full length. At this time, fold the wings in to reduce the overall width for traveling.

A travel link kit, 2D-552, is available as an accessory for transporting the harrow when the hydraulic cylinder is removed.

Operating

The harrow should be raised when making short turns, such as at the ends of the field. Failure to raise the harrow out of the ground when turning short, places excess strain on the teeth, and may result in premature tooth failure.

Operating in rough ground which causes the harrow to bounce excessively or pull unevenly, may require the use of the leveler kit, 3D-507. This kit, which levels the ground ahead of the wheels, is available as an accessory.

Lubrication

Coat the inner surfaces of the transport axle bearings and rockshaft bearing clamps with grease before assembling. Grease daily when in use.

