

# OPERATOR'S MANUAL

*Brillion*

## CHISEL PLOW

### MODELS

CP 10-01 & 02

CP 12-01 & 02

CP 14-01 & 02

CP 16-01 & 02



BRILLION IRON WORKS  
BRILLION, WISCONSIN 54110

SETTING UP AND OPERATING INSTRUCTIONS  
FOR BRILLION CHISEL PLOWS

Your Brillion Chisel Plow 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.

<u>Model Number</u>	<u>Number of Shanks</u>	<u>Operating Width</u>	<u>Overall Width</u>	<u>*Type of Shank Mounting</u>
CP-10-26	10	10'	126"	R or S
CP-12-26	12	12'	139"	R or S
CP-14-26	14	14'	175"	R or S
CP-16-26	16	16'	189"	R or S
CP-10-32	10	10'	126"	S
CP-12-32	12	12'	139"	S
CP-14-32	14	14'	175"	S
CP-16-32	16	16'	189"	S

Hydraulic Cylinder (Not Included) - - - - - Standard Hydraulic Cylinder with 8" stroke.

Shanks Available - - - - - 1" x 2" x 32" Clearance  
1" x 2" x 26" Clearance

Shank Spacing - - - - - One Foot

Working Depth - - - - - 0 to 15" (32" Shank)  
0 to 12" (26" Shank)

Road Clearance - - - - - 8"

Recommended Tire Size - - - - - 7:60 x 15, 4 Ply, Standard  
11:00L x 15, 4 Ply, Optional

Transport Wheel Rims - - - - - 15 x 6 LB, Standard  
15 x 8 LB, Optional

Transport Wheel Bearings - - - - - Tapered Roller Bearings

Transport Wheel Seals - - - - - Triple Lip Seals

\*R - Rigidly Mounted Shanks  
\*S - Spring Cushion Clamps for Shanks

## SETTING UP INSTRUCTIONS

Your Brillion Chisel Plow is shipped to you in separate assemblies. These assemblies are:

	Number Used on Each			
	<u>CP-10</u>	<u>CP-12</u>	<u>CP-14</u>	<u>CP-16</u>
1. Drawbar Brace R. H.	1	1	1	1
2. Drawbar Brace L. H.	1	1	1	1
3. Frame	1	1	1	1
4. Cylinder Anchor Lug	1	1	1	1
5. Drawbar	1	1	1	1
6. Transport Axle	1	1	1	1
7. Box Assemblies (One Box Hardware, One Box Points)	2	2	2	2
8. Wheel	2	2	2	2
9. One Foot Extension Bundle	0	2	0	0
10. Two Foot Extension Bundle	0	0	2	2
11. Three Foot Extension Bundle	0	0	0	2
12. Shank Bundles	10	12	14	16

Before assembling the Brillion Chisel Plow, separate the various bundles and open the box assemblies, taking care not to lose any of the parts or hardware. Do not tighten the bolts and capscrews until the entire frame is assembled. Use nuts and lockwashers for all bolts and capscrews.

### ASSEMBLY OF BASIC 10' CHISEL PLOW

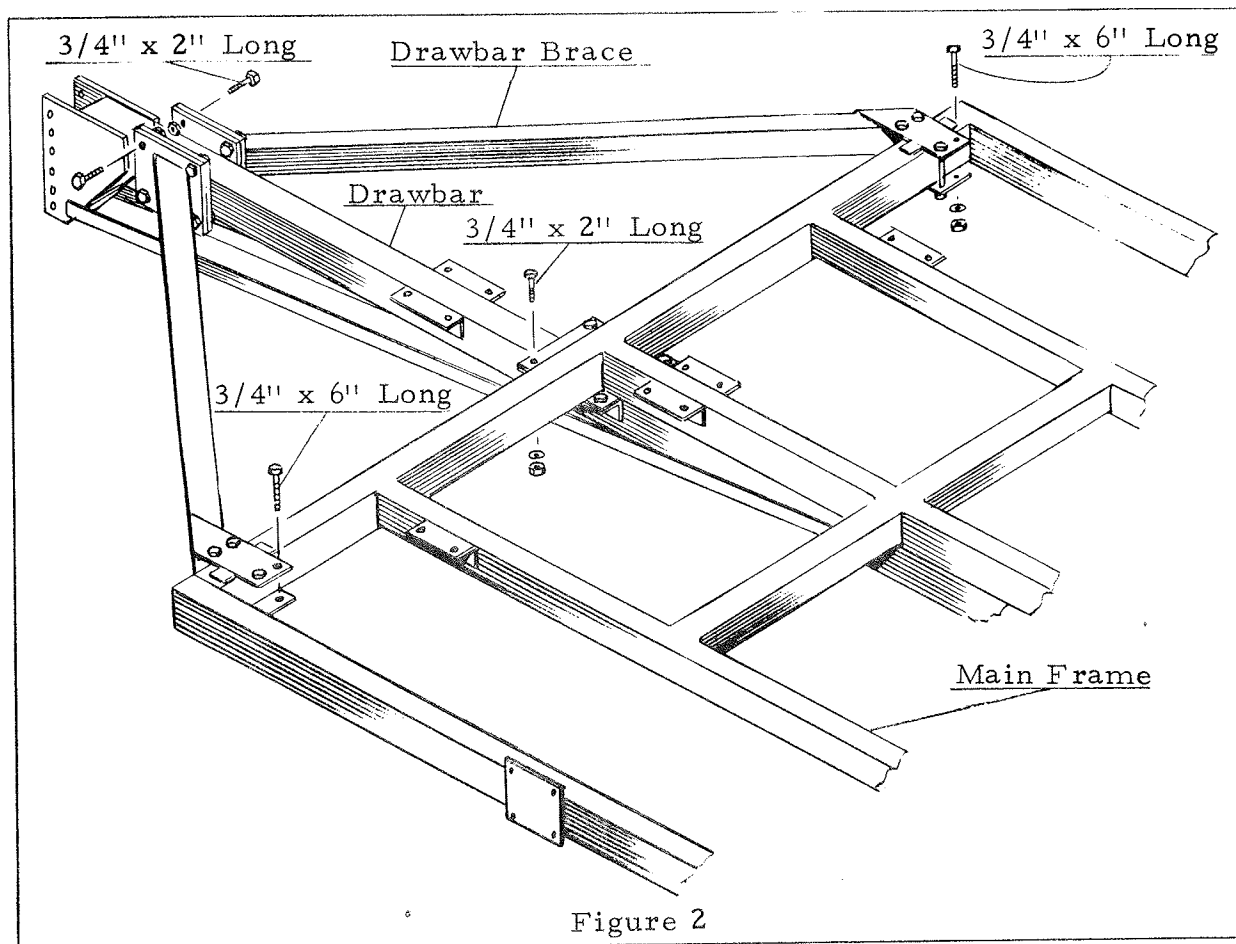
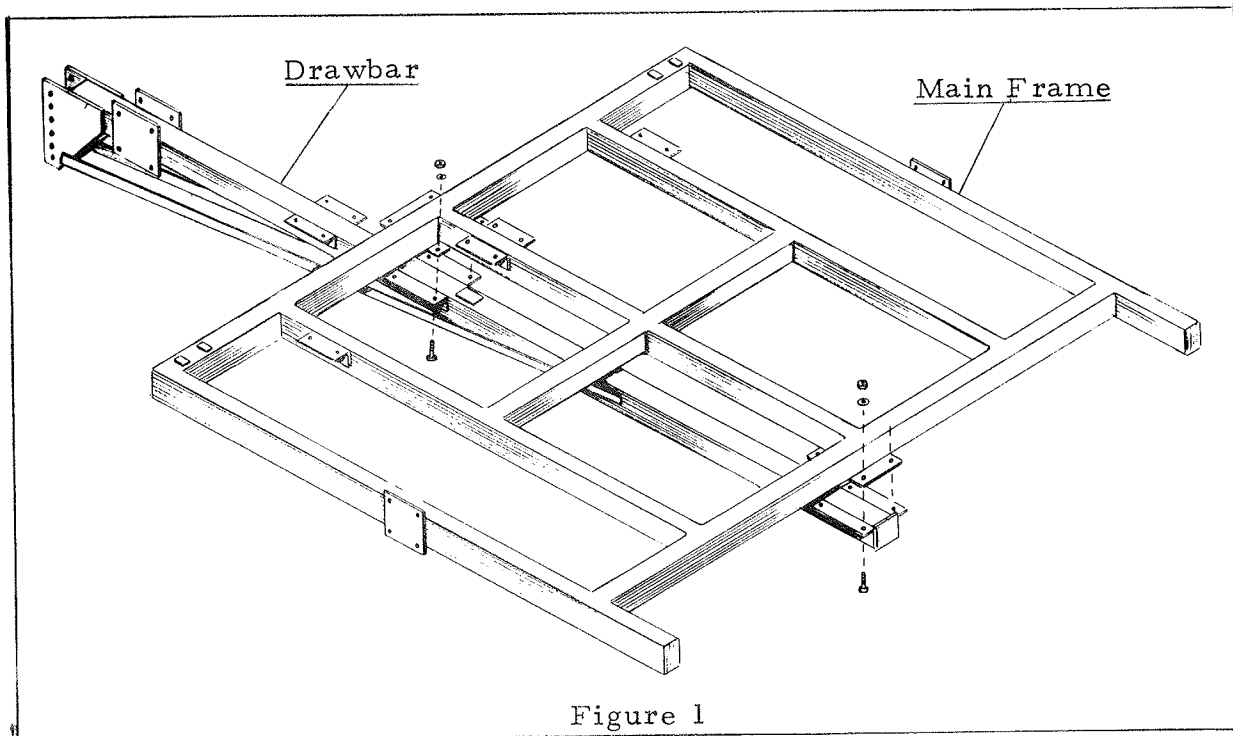
Assembly of the chisel plow will be easier if a power hoist is available.

#### 1. Lay Out the Parts in Their Respective Positions

Position the main frame of the chisel plow so that the plates at the center are at the bottom of the frame. The angles on the top of the main frame are toward the front. See Figure 1.

The butt plate of the drawbar is at the rear of the drawbar and the angles are on the top. The drawbar will be attached later to the bottom of the main frame.

The drawbar braces have a plate welded on the front which bolts to a plate on the drawbar and two plates (top and bottom) on the rear which slip on the main frame. Place the braces on their respective sides so that when the rear part is toward the machine, the front part lowers to the drawbar. See Figure 2.



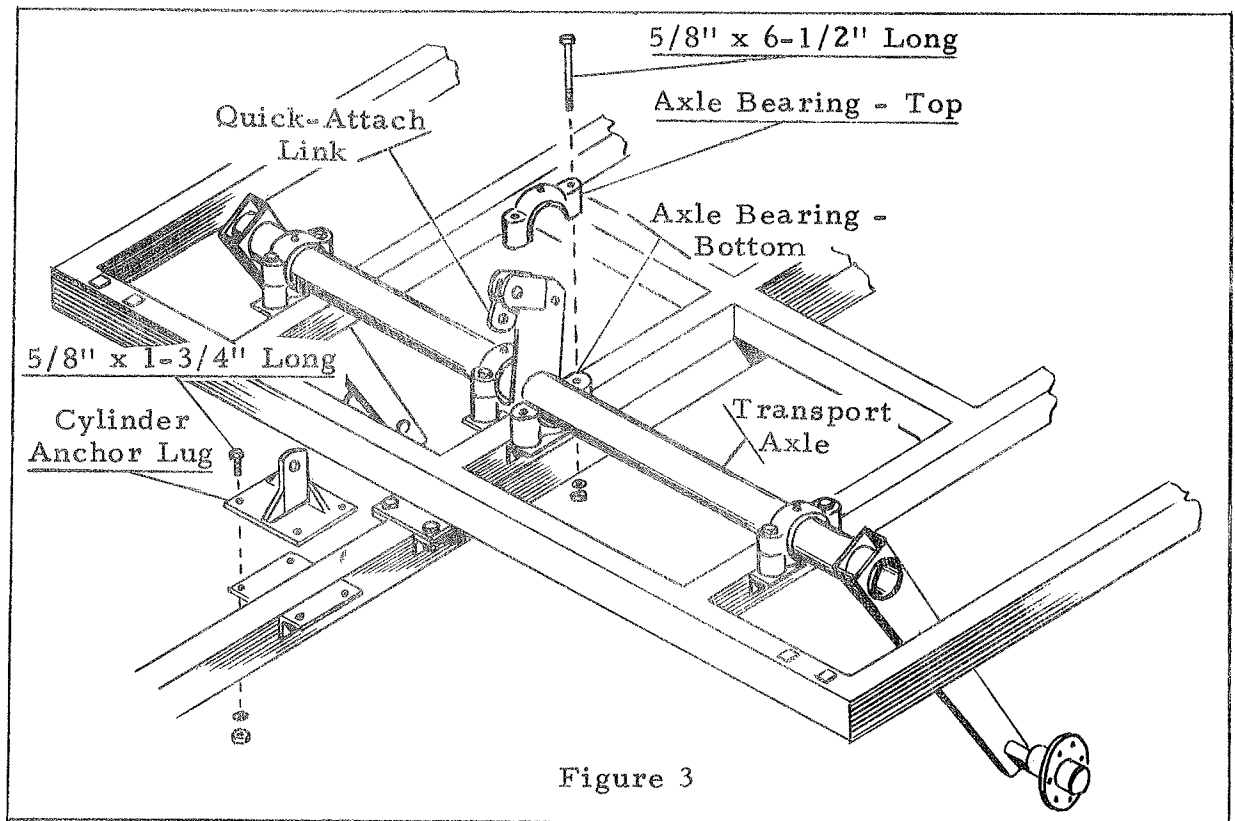


Figure 3

The transport axle is placed so that the lift arm in the center is up, and the hubs are toward the rear. See Figure 3.

## 2. Assemble the 10' Chisel Plow

The most convenient set-up area is a concrete floor or similar hard surface.

Place the main frame on blocks at least eight inches high. Attach the drawbar to the main frame using  $3/4''$  x  $2''$  long capscrews. Next, attach the drawbar braces by sliding the rear plates on the tooth bar of the main frame between the guides near the end. Use  $3/4''$  x  $6''$  long bolts as shown in Figure 2. Attach the front of the drawbar brace to the drawbar using  $3/4''$  x  $2''$  long capscrews.

Place the cylinder anchor lug assembly on the drawbar as shown in Figure 3. The anchor lug is painted black for a chisel plow with  $32''$  clearance shanks and yellow for a chisel plow with  $26''$  clearance shanks.

Attach the quick-attach link to the lift arm of the transport axle using a  $1''$  x  $2-1/4''$  long clevis pin, and secure with a  $3/16''$  x  $2''$  long cotter pin.

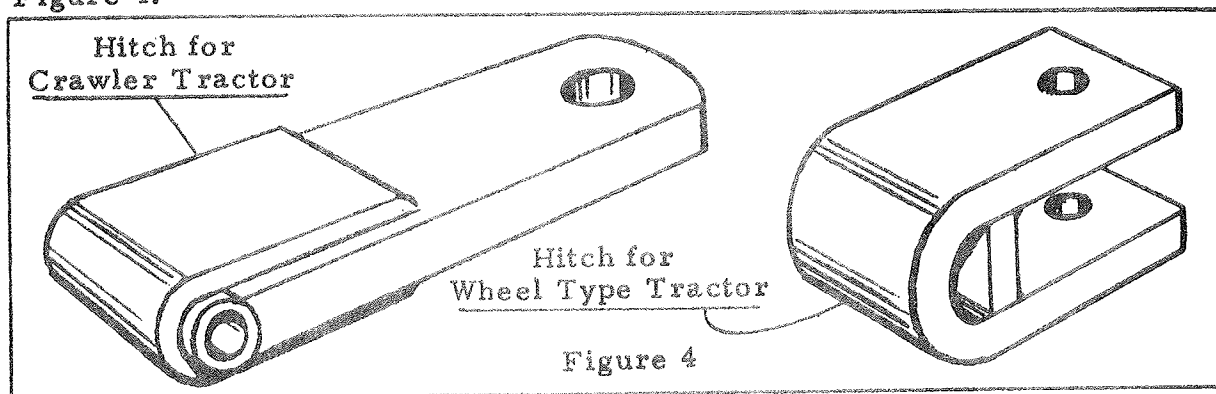
Tighten bolts and capscrews.

Place the bottom part of the axle bearings on the main frame and put the transport axle in place. Put the top part of the axle bearing over the axle and secure with 5/8" x 6-1/2" long bolts. Tighten these bolts and lubricate the bearings. See Figure 3.

If a hoist is available to lift the main frame, the wheels and tires may be put on the hubs.

If a hoist is not available, leave the wheels off and put a standard agricultural hydraulic cylinder or a screw jack between the cylinder anchor lug and the quick-attach link. By extending the jack or cylinder, lift the chisel plow off the blocks.

Raise the chisel plow high enough that the shanks and points can be mounted. After mounting shanks and points, retract the jack and lower the plow onto the points. Raise the axle high enough to mount the wheels and tires. Attach the hitch to the drawbar of the chisel plow using the 1" x 7" long bolt and locknut. The hitch for a tractor type drawbar is a clevis hitch and the hitch for a crawler type drawbar is a flat bar hitch. These are shown in Figure 4.



### 3. Mounting and Positioning the Shanks

The rigid mounted shanks are shipped assembled to the shank clamps. To mount these on the chisel plow, remove the 3/4" bolt and nut from the front of the assembly. Slide the assembly onto the tooth bar, replacing the bolt and nut.

The spring clamp and the shank are not assembled for shipping. To mount the shank to the clamp, first remove the nut from the 3/4 x 3-1/2" long bolt and remove the bolt from the shank holder and from the U-bolt clip. Loosen the two nuts on the small U-bolt so that the shank can slide between the plate and the shank holder. Remove the two locknuts from the long U-bolt and remove the plate and the spring caps. Slide the shank between the legs of the small U-bolt and between the plate and the shank holder and also between the legs of the long U-bolt. Insert the 3/4" bolt through the shank holder, the shank and the U-bolt clip. Assemble the spring caps, the plate and the two locknuts on the long U-bolt making sure that the U-bolt is positioned correctly in the U-bolt clip. Tighten all nuts. Mount the assembly on the toothbar. Torque the 3/4" nuts to 200 ft. -lbs.

See figure 5 and figure 6 for assembly and location of shanks.

For field operation, the spring bolts should be tightened so that one inch of thread is exposed as shown in Figure 5. The user may want to clamp the spring tighter for chisel plowing tougher ground, but when this is done, the shank and tooth will not pass over as great an obstruction.

### 4. Assembly of the 12', 14' and 16' Chisel Plow

The first step in assembling the wider chisel plows is to first assemble the basic 10' chisel plow, then add on the extensions as described in the following paragraphs.

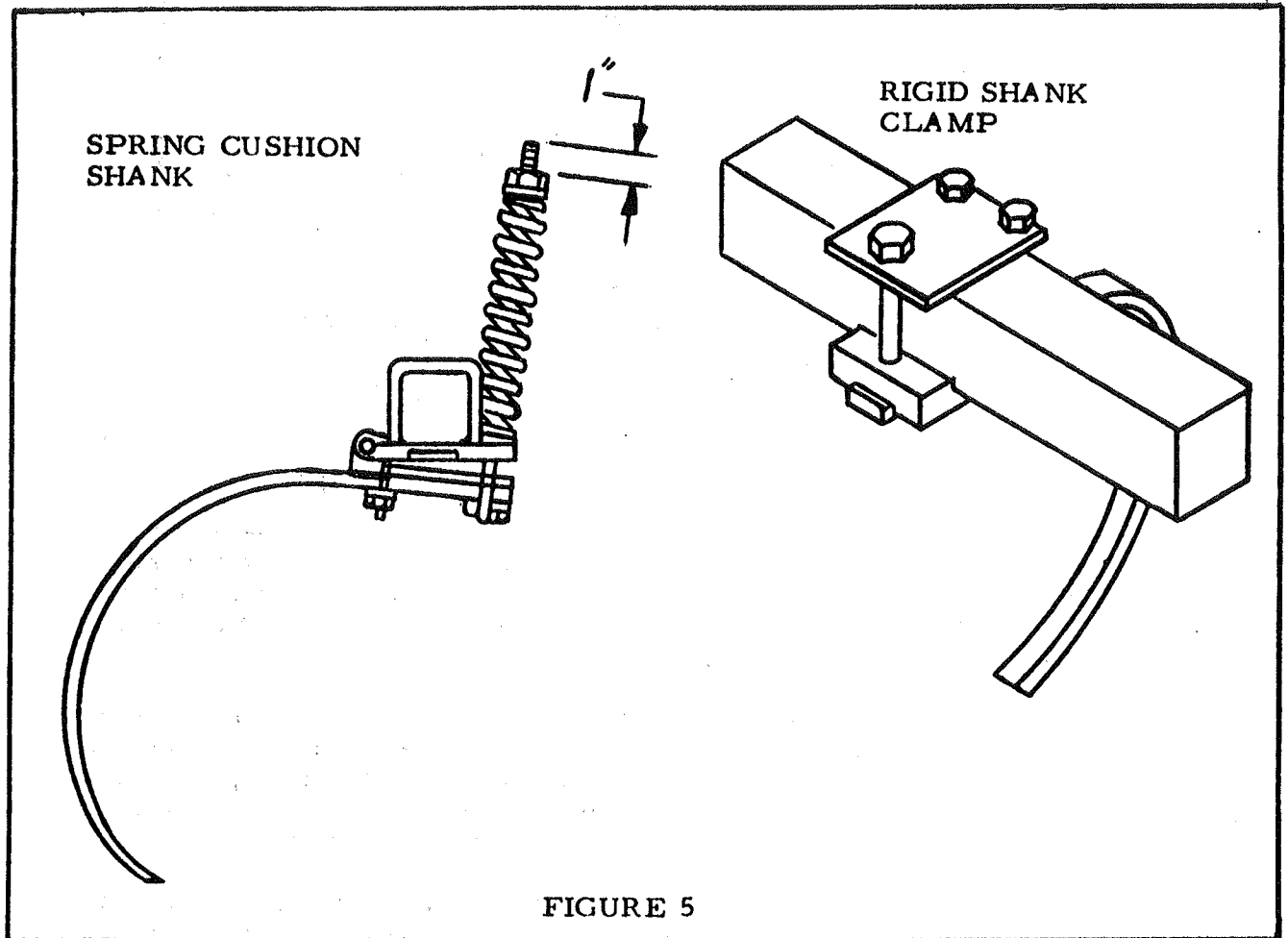


FIGURE 5

In Figure 6, the dotted portion represents the outermost portion of the 16' chisel plow. The dashes represent the outermost portion of the 14' chisel plow, and the small portion with both dots and dashes represents the outermost portion of the 12' chisel plow.

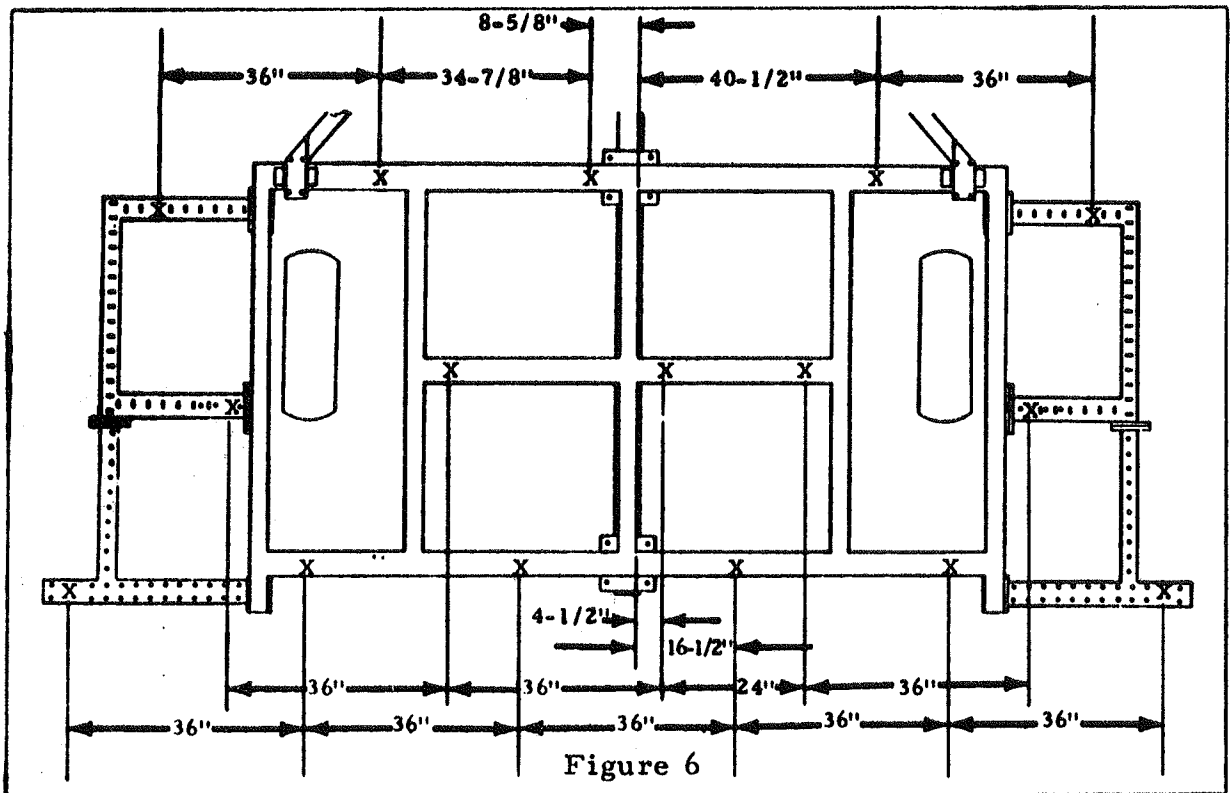


Figure 6

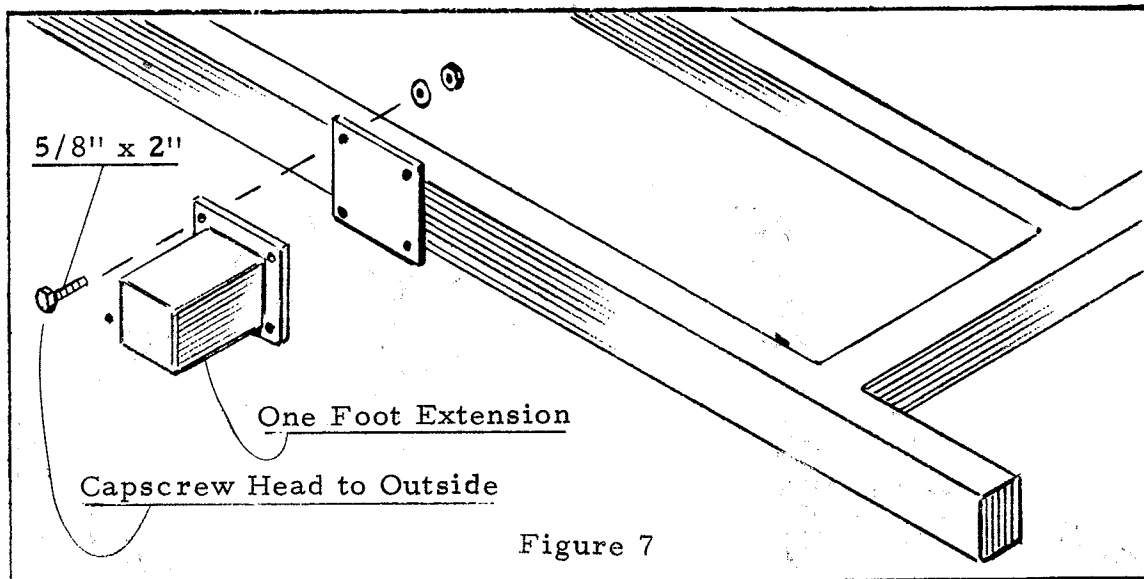


Figure 7

To make a 12' machine, bolt the one foot extension to the plate on the sides of the main frame using the 5/8" x 2" long capscrews which are mounted in the extension. See Figure 7. Keep the heads of the capscrews to the outside of the machine and the nuts to the center.

To make a 14' chisel plow, bolt a two foot extension to each side of the main frame as shown in Figure 8 using 5/8" x 2" long capscrews in the plate at the middle and 5/8" x 5" long capscrews on the front. The front part of the extension and the plate attached to it are used to clamp onto the front-to-rear tubing. Make sure the bolt heads are to the outside of the main frame.

To make a 16' chisel plow, follow the procedure for assembling the 14' chisel plow as listed above. Then add the two "T" sections as shown in Figure 8. Use 5/8" x 5" long capscrews to clamp the "T" extension to the rear of the main frame and 5/8" x 2" capscrews to attach the front part of the "T" section to the two foot extension.

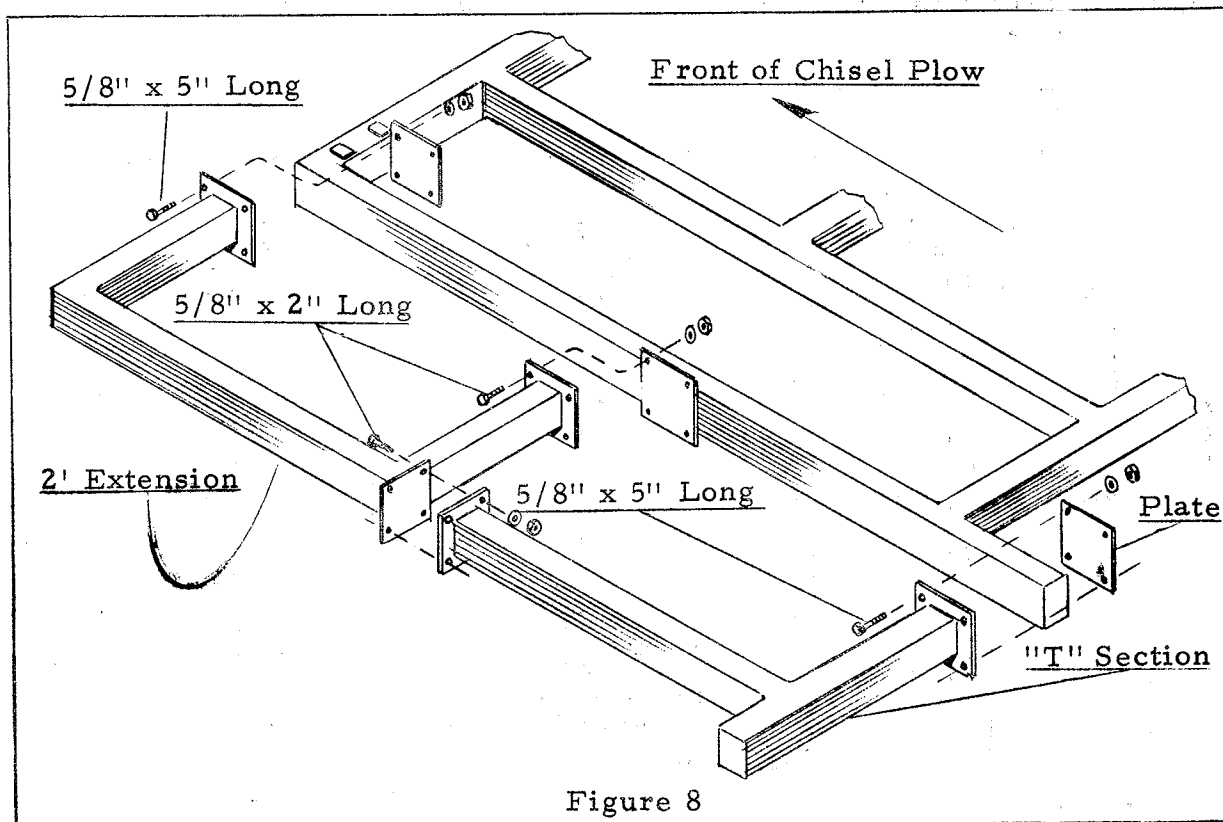


Figure 8



The hitch should be adjusted so that the chisel plow is level when in field operation. Factors to be considered in locating the hitch on the drawbar are depth of tillage and height of the tractor drawbar.

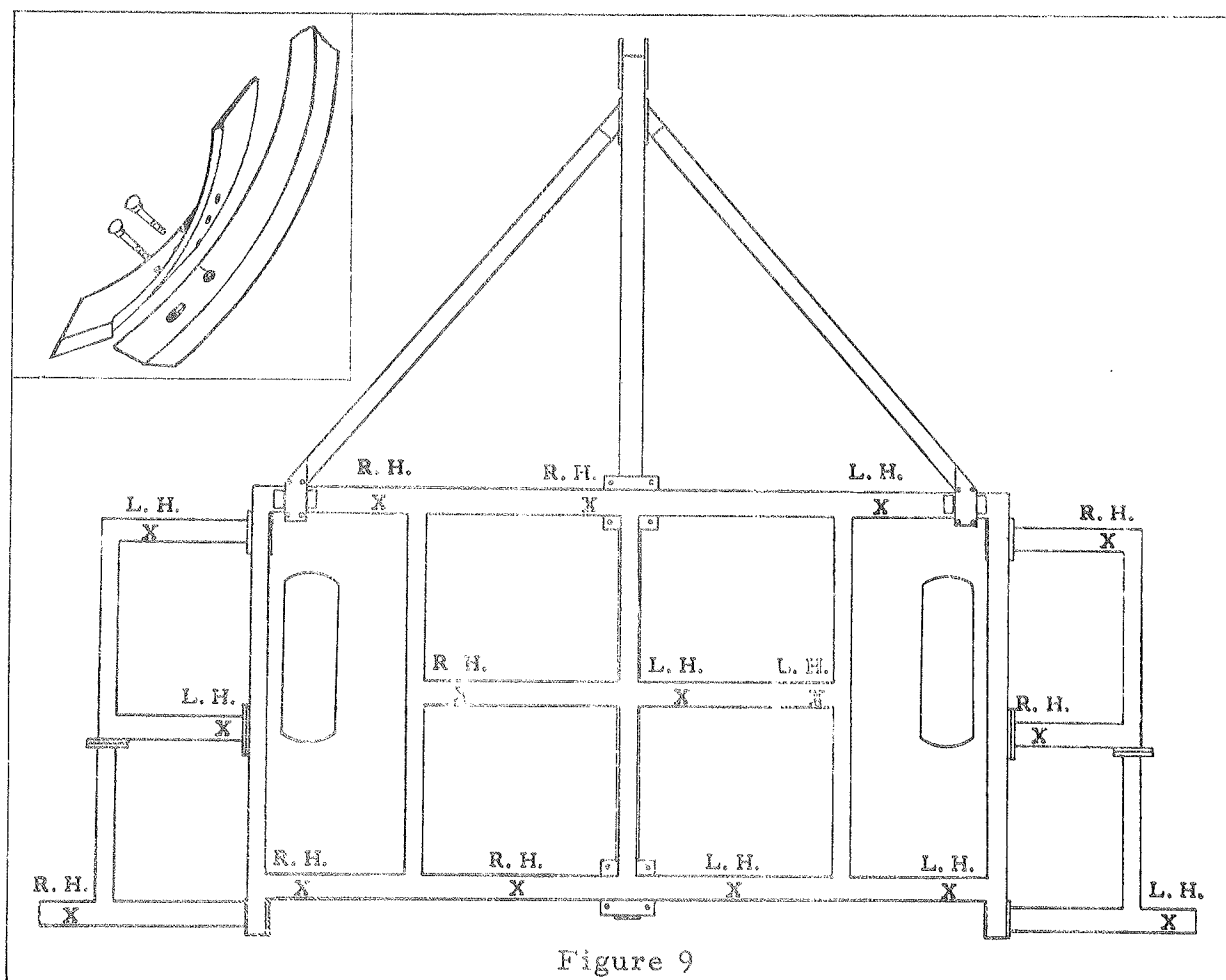


Figure 9

### Twisted Shovels

If twisted shovels are to be used, it is suggested that they be arranged on the shanks as shown in Figure 9. The arrangement shown is for a 14' chisel plow. For a 14' chisel plow, leave off the outside shovel on each end of the machine shown in the illustration; for a 12' chisel plow, leave off two shovels from each end; for a 10' chisel plow leave off three shovels from each end. (L. H. means that the soil is thrown left and R. H. means that the soil is thrown to the right.) Make certain that the shovels next to the wheels and axle arms throw the soil away from the wheels and axle arms. Place the plow bolts in the two bottom holes of the shovel as shown in the inset of Figure 9.

If another arrangement is desired, be certain that the shovels have balanced positions from right side to left side, i. e., a L. H. shovel is the same distance from the center of the machine as a R. H. shovel is on the opposite side.

The shank clearance - 32" or 26" - refers to the distance from the bottom of the straight portion of the shank to the bottom point on a regular reversible chisel point which is new. See Figure 5.

When replacing or reversing points, change all points at the same time so that they will have the same operating depth. If some shanks have worn points and some have new points, or points of a different design, the chisel plow will not operate efficiently.

### Chisel Plow Transport Link

The chisel plow transport link is an optional piece of equipment. To attach it, use the following directions.

Bolt the two straps to the drawbar behind the middle shank bar of the main frame using a 3/4 x 6 bolt. See figure 10. Place the tube portion of the link between the straps and secure with a 3/4 x 6 long bolt and locknut.

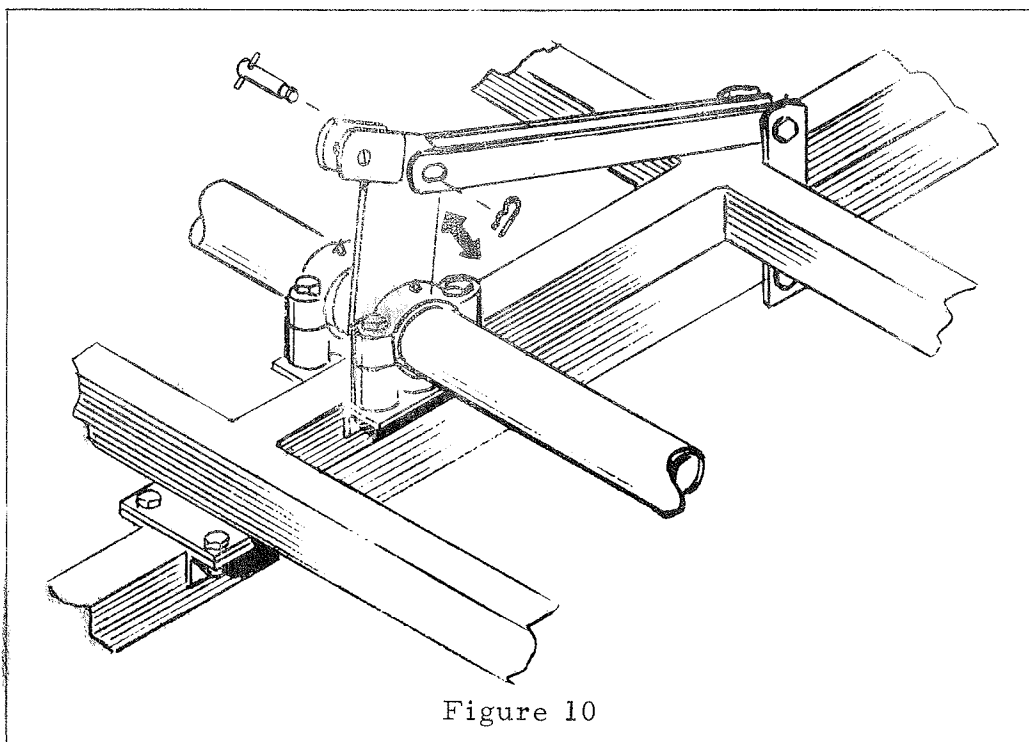


Figure 10

If the chisel plow has a tendency to pull sideways, there are several possible reasons. They are:

1. Chisel plow not level (check drawbar height)
2. Improper shank spacing (see Figure 6)
3. Operation on a slope
4. One side of the machine overlapping worked soil with the other side in unworked soil (do not overlap)
5. Different size tires on one side of the transport axle than the other
6. Tire pressure not the same in both transport tires (check inflation)
7. Worn points being used with new points on the chisel plow

Maintenance and Lubrication

After the first five or six hours of operation, go over the machine and tighten all nuts which might be loose. Normal periodic checks should be made thereafter.

Grease the transport axle bearing each 50 hours under normal operating conditions. For the shanks with a spring cushion clamp, grease the pivot pin every 10 hours under normal operating conditions.

Transport wheel bearings should be packed once a season.

EQUIPMENT AVAILABLE FOR CHISEL PLOWS

To convert to a larger chisel plow, the following kits are needed along with the desired number and type of shanks and points.

<u>Convert From:</u>	<u>To a:</u>	<u>Bundle Needed</u>
CP-10	CP-12	6D-226
CP-10	CP-14	6D-227
CP-10	CP-16	6D-228
CP-12	CP-14	6D-227
CP-12	CP-16	6D-228
CP-14	CP-16	6D-308 (Two needed)

Wheel for 11:00 x 15 flotation tire - - - - - 6D-312

Tires: Set of two ribbed implement tires and tubes.

7:60 x 15, 4 ply - - - - - 6D-368

7:60 x 15, 8 ply - - - - - 4D-668

Hitch for a crawler tractor type drawbar - - - - - 6D-286

Screw jack - - - - - 7C-841

Transport link kit for chisel plow with 32" shank  
See Figure 10 - - - - - 6D-417

Transport link kit for chisel plow with 26" shank - - - - - 6D-416

Shanks available - 32" 1 x 2 wide for spring  
cushion mount only - - - - - 6D-354

26" 1 x 2 wide  
spring cushion mounted - - - 6D-283  
rigid mounted - - - - - 6D-314

## SAFETY

A chisel plow is a fairly simple machine, but it must be operated in a prudent manner.

1. Never turn corners at a high rate of speed.
2. Never work under the chisel plow unless it is securely blocked up and cannot be knocked off the blocks.
3. Always take care in raising and lowering the chisel plow, and be certain no one is in the way.
4. Never allow passengers to ride on the chisel plow.
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 implement. Local regulations should be checked first, and if there are none, the chisel plow owner should take the initiative to make his machine noticeable at night.

Remember, the simplest tool, if used in a dangerous or hazardous manner, can be a deadly weapon. In your work, ACT SAFETY so that in your sleep, your dreams can be carefree.