

# **OPERATOR'S MANUAL**

*Brillion*

**200" ROTARY SHREDDER**

MODELS: R-200-02  
R-200-03  
R-200-4  
IR-200-4

**BRILLION IRON WORKS, INC.**

Brillion, Wisconsin, U. S. A.

## R-200 ROTARY SHREDDER

Your Brillion Shredder is built with the best materials and workmanship available. All machines are adjusted at the factory to assure their proper mechanical operation. Minor slip clutch adjustments may have to be made, to prevent premature failure of parts.

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Many future difficulties can be avoided by following the operating instructions, and by correctly adjusting and lubricating the machine when necessary.

\* \* \* \* \*

### Location Reference

"Right" and "Left", "Front" and "Rear" refer to the operators right and left, front or rear, when he faces the same direction as the machine is traveling.

SPECIFICATIONS

Model - - - - - R-200 and IR-200 Rotary Shredder

Weight - - - - - 2740#

Cutting Width - - - - - 200"

Cutting Height - - - - - 1" - 12" (Adjustable)

Wheel Positions - - - - - Side Mounted - Wing Sections  
Rear Mounted - Center Section


Blades - - - - - Four sets - heat treated alloy steel

Center Cross Drive - - - - - 1 to 1 ratio

Blade Drive - - - - - Four individual drive units

Bearings - - - - - Tapered roller bearings

Drive Coupling - - - - - Flexible - multiple disc involute spline hubs

Power Shaft - - - - - Heavy duty - two joint - needle bearing - integral shield  


Slip Clutch - - - - - Multiple disc - adjustable

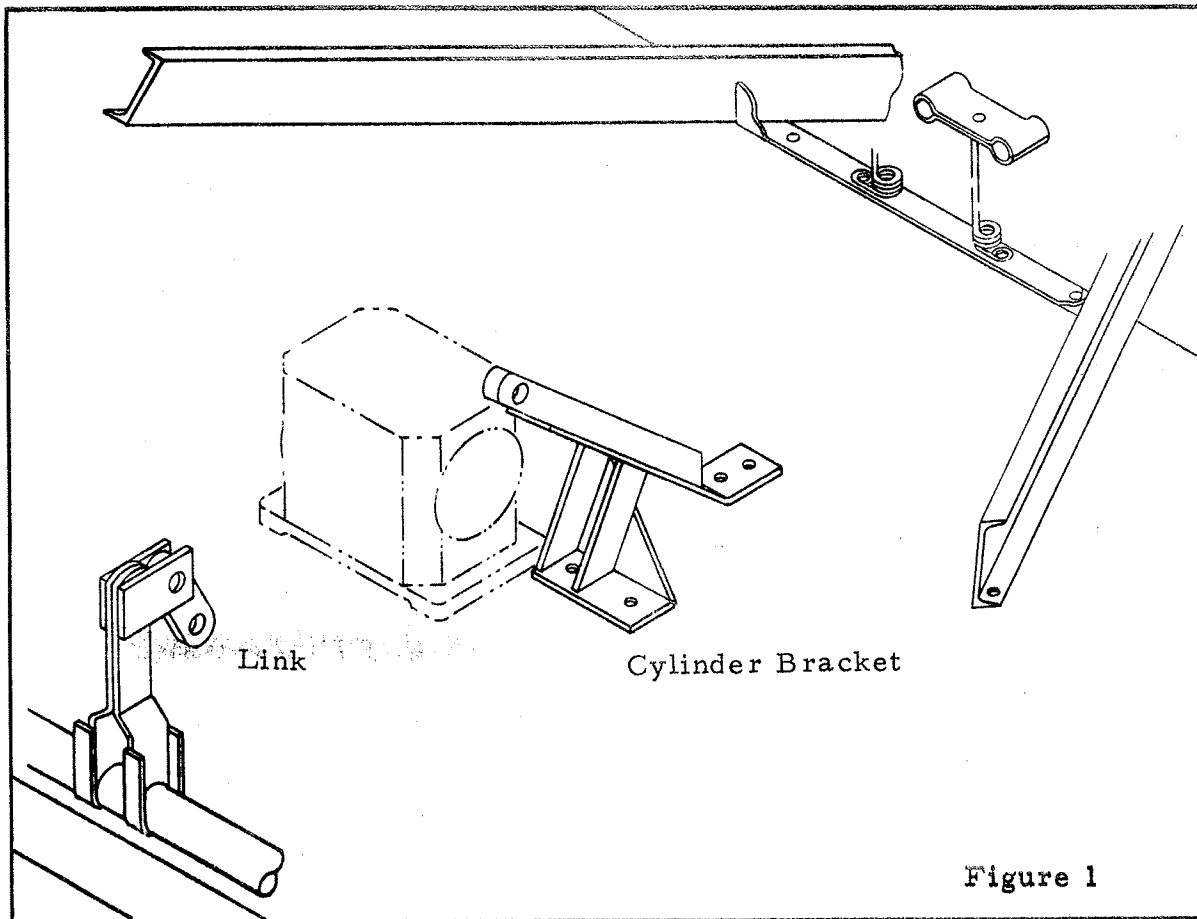
Wheel Sizes - - - - - Three types available -  
(1) 14" Pneumatic (Std.)  
(2) 15" Pneumatic (Optional)  
(3) Laminated Rubber (Optional)

Hitch - - - - - Drawbar type only -  
Rigid - adjusts to tractor - R-200  
Hydraulically operated - IR-200

## ASSEMBLY . . . R-200 AND IR-200

Hardware to completely assemble the shredder is either attached to the part to be assembled, or in the box assembly containing small parts and hardware.

Begin assembly of the shredder on level ground or floor and block up the center section approximately 12" above the ground. With the center section securely blocked, remove the axle bearing caps, place the axle into the bearings, replace and secure the bearing caps. Attach 3/4 x 2-1/2 x 7" long link to the axle arm assembly with 1" x 2-1/4" long clevis pin and cotter pin as shown on Figure 1. Next attach the tractor hydraulic cylinder (or ratchet jack) bracket to the center hood using the hardware included with the bracket.



Connect the wing sections to the center section by aligning the hinge tubes and inserting the hinge pins through the hinge tubes, securing with roll pins.

Next, fasten the quick detachable yokes of the double-telescoping universal joint assemblies to the center drive output shafts. Refer to Figure 2 for the exact wing blade location with respect to the center blades before attaching the bolted yoke to wing drive input shaft. **IMPORTANT: WING BLADES MUST BE SYNCHRONIZED WITH CENTER BLADES.**

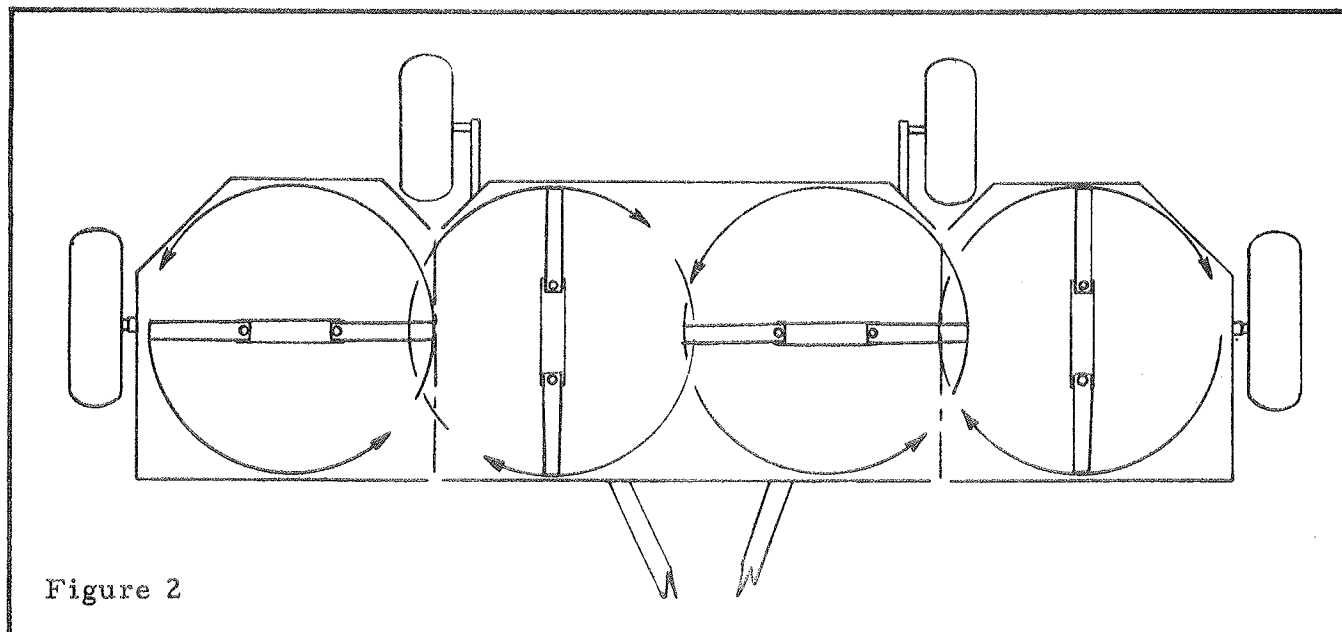


Figure 2

The wing lift mechanism consists of the mounting lugs, lift arms, hydraulic cylinders, hydraulic hoses, relief-check valve and connectors. See Figure 3 for lug identification and locations. Attach lift arms to the proper mounting lugs using the 5/8 x 2-1/4" long clevis pins and secure with cotter pins. Next position wing lift hydraulic cylinders, attaching them to the designated lug. Now connect the cylinder to the lift arm. Then fasten wing lift eye bolt to the hood top as shown, using lockwasher and nut. Connect the relief-check valve and the two crosses arranged as indicated in the repair parts catalog with the direction of free-flow through the valve away from the cross to which the anchor ports of the cylinder are connected. The assembled relief-check valve and crosses are placed on the hood between the mountings of the rear axle cylinder bracket. Attach the hoses to the crosses as follows:

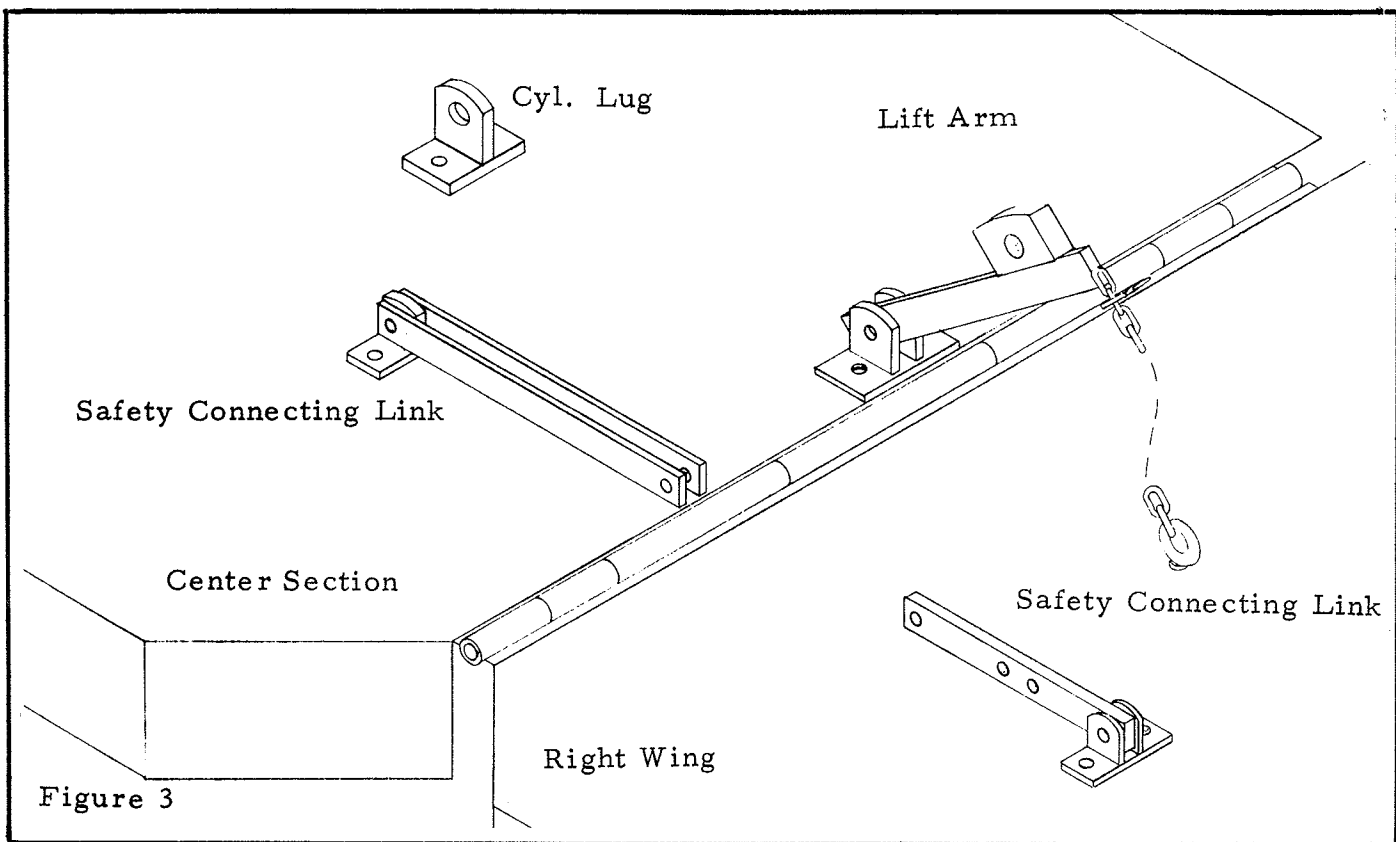
To the right wing lift - Right Cross to Anchor End Port - 90 degree adaptor, 11-1/4 long  
 Left Cross to Rod End Port - (2) 90 degree adaptors, 33-1/2 long

To the left wing lift - Right Cross to Anchor End Port -(2) 90 degree adaptors, 39 long  
 Left Cross to Rod End Port - 90 degree adaptor, 43-1/4 long

Crosses to Tractor - Left Cross - 90 degree adaptor, 90 long  
 Right Cross - Rigid ends, 86 long

Fasten the safety connecting links to their respective lug mountings using 1/2 x 2" long, Grade 5 capscrews and lock nuts.

Attach wing support wheels to wings using hardware included and position the wheels for the intended cutting height.



### Drawbar Attachment

- R-200 - Position the drawbar and hose holder (see Figure 1) and secure to hood top using (4)  $1/2 \times 1-3/4$  long capscrews and  $1/2 \times 2-1/4$ " long capscrew with bevel washer (used for hose holder).
- IR-200 - The machine is shipped with the drawbar mounting brackets in place on the hood and with the bearings, in which the drawbar pivots, mounted to the brackets. The drawbar is installed by removing the cap portion of the bearings and then inserting the drawbar pivot shaft into the bearings and replacing the cap portion. All brackets and lugs should be checked for alignment and fasteners tightened.

All the parts to assemble the drawbar are contained in a box assembly. Connect the link (similar arrangement as in Figure 1) to the drawbar lift arm, attaching with the clevis pin. Attach the adjustable hitch bracket to the drawbar using the  $5/8$  capscrews, lockwashers and nuts provided. Also a hand-operated ratchet jack was shipped with the machine. This jack is intended for positioning the transport axle while the drawbar is actuated by a hydraulic cylinder.

A stand to support the machine when not in use is furnished. The stand consists of its mounting bracket and support (see repair part catalog for identification). Attach the mounting bracket to the left front of the hood, adjacent to the drawbar bearing. Use the four capscrews, two bevel washers (used below the channel flange), four lockwashers and four nuts provided. Insert support into the bracket tube. Several height positions can be attained by extending or retracting the support and inserting a pin.

## OPERATION AND MAINTENANCE

The Brillion 200" Shredders are designed to operate with tractors having 1,000 or 500 rpm PTO speeds. It is important, too, that the Brillion Shredder be used only on tractors having a standard ASAE drawbar and of ample power to do the required job.

Before attempting to operate your shredder, BE SURE TO PUT OIL IN ALL OF THE GEAR BOXES. Use anti-foam SAE #90 oil in winter and #140 in summer. Grease the PTO joints, and lift shaft bearings. The wheel bearings have been packed at the factory.

Because the shredder is heavy on the drawbar, the drawbar jack (or stand) should be used in hitching and storage of the shredder.

This machine has a 3" blade circle overlap between center blades and 6" between wing blade and center section blade. When shredding corn stalks, best results can be obtained by traveling in the opposite direction to which the picker has traveled. The hood should be lowered slightly in front. The forward speed of travel should be 4 to 5 miles per hour. Hood position and forward speed can be varied to produce the desired result. Too slow a forward speed will result in a poor job of shredding.

When desired this shredder can be operated using only the center section. This is done by detaching the telescoping universal joint assemblies from the center spindle drive assemblies and raising the wings to 45 degrees or 90 degrees position.

Raising the wings vertically to transport is a two step procedure.

1. Detach the double-telescoping universal joint assemblies from the center section drive units. Raise the wings from ground level to maximum cylinder movement. Attach the center hood safety connecting links to the wing safety connecting links, and then extend the hydraulic cylinders. WARNING - SERIOUS DAMAGE WILL RESULT TO UNIVERSAL JOINT ASSEMBLY IF IT IS NOT DETACHED WHEN WINGS ARE RAISED BEYOND 45 DEGREES.

2. Attach safety hooks to the eye bolts and raise wing to the vertical position. The connecting links should be repositioned to hold the wings in this position and the hydraulic cylinder released. CAUTION - DO NOT depend on hydraulic cylinders to support wings.

To revert to working position, reverse the procedure to raise the wings. WARNING - DAMAGE TO LIFT-CHAIN SAFETY HOOK WILL RESULT IF THE SAFETY LINKS ARE NOT ATTACHED WHEN LOWERING THE WINGS FROM 90 TO 45 DEGREES.

### Cutting Height

The center section cutting height is controlled by the tractor remote control cylinder, and wing support wheels are raised and lowered to level the machine. The maximum cutting height will be slightly less when the shredder is mounted on laminated tires than when mounted on pneumatic tires, due to the slightly smaller diameter of the laminated tires.

### Blade Rotation

The rotary blades rotate in the direction opposing each other. The direction of rotation of the center section blades is from the rear of the machine toward the front through the center (see figure 2). If any portion of the shredder drive is dismantled, it will be necessary to resynchronize the blades.

### Leveling the Shredder

When attaching the shredder to the tractor, level the shredder by adjusting the front hitch. It is advisable to operate the unit level or slightly low in front.

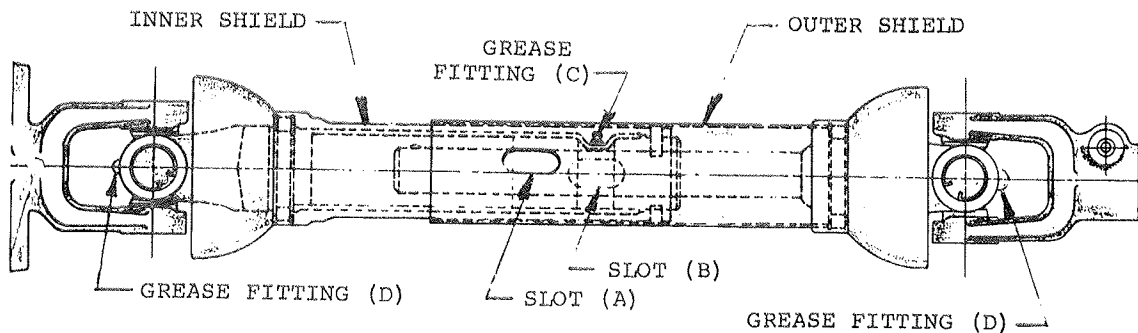
### Slip Clutch

The multiple disc clutch is intended to protect the shredder and tractor against shock and overload damage. It also eliminates the downtime created by replacing shear pins. If the clutch runs hot during normal operation of the tractor, draw up 1/6 turn on each of the (12) adjusting screws. Continue to operate and recheck for heating. Do this until excessive slippage and heating are eliminated.

Periodic adjustment will be necessary to compensate for wear on the clutch facings.

### PTO Drive Shaft

To grease the square shaft in the PTO, it may be necessary to detach the universal joint from the tractor. Rotate and slide the outer shield until slot (A) lines up with slot (B) in the inner shield, then rotate both shields until the grease fitting (C) is in line with the openings. Also grease fitting at (D). Grease all PTO fittings after each 10 hours of operation.

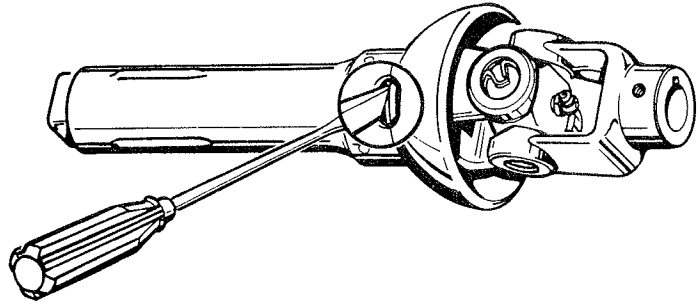




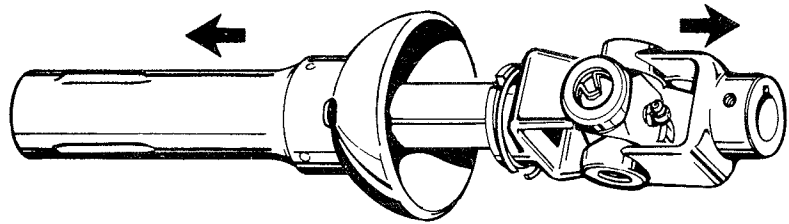


## Instructions for Removing Nylon Quick Detachable Free Wheeling Guard

1. Insert screw driver in slot in bell and push snap ring downward and forward out of groove toward large opening of bell.

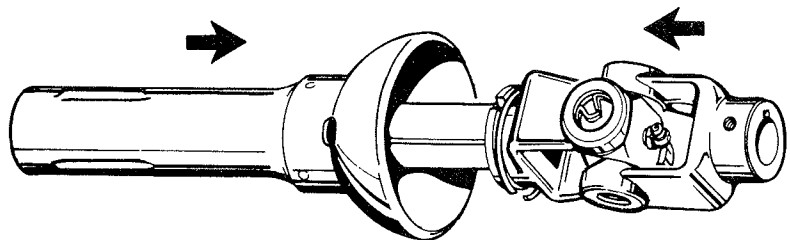


2. Slide guard off of joint.

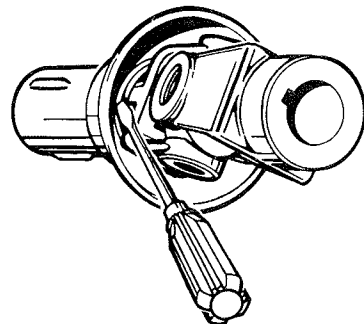


## Instructions for Assembling Nylon Quick Detachable Free Wheeling Guard

1. Slide snap ring over joint hub.



2. Insert nylon bearing in groove of joint hub.



3. Slide joint assembly into guard. With screwdriver, push snap ring into groove.

**WARNING** - DO NOT POUND BELL TO REMOVE JOINT ASSEMBLY.