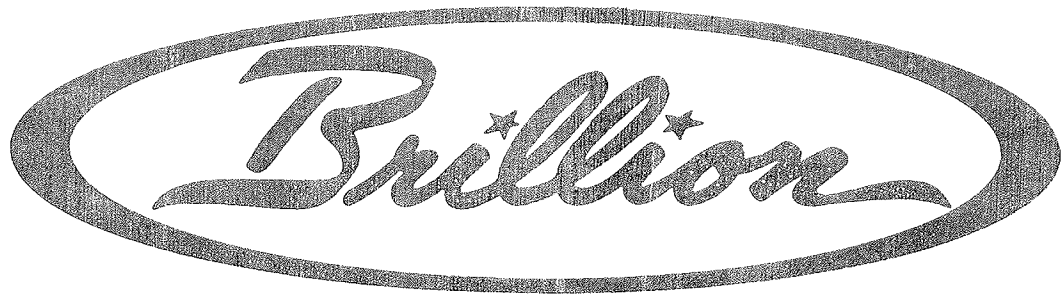


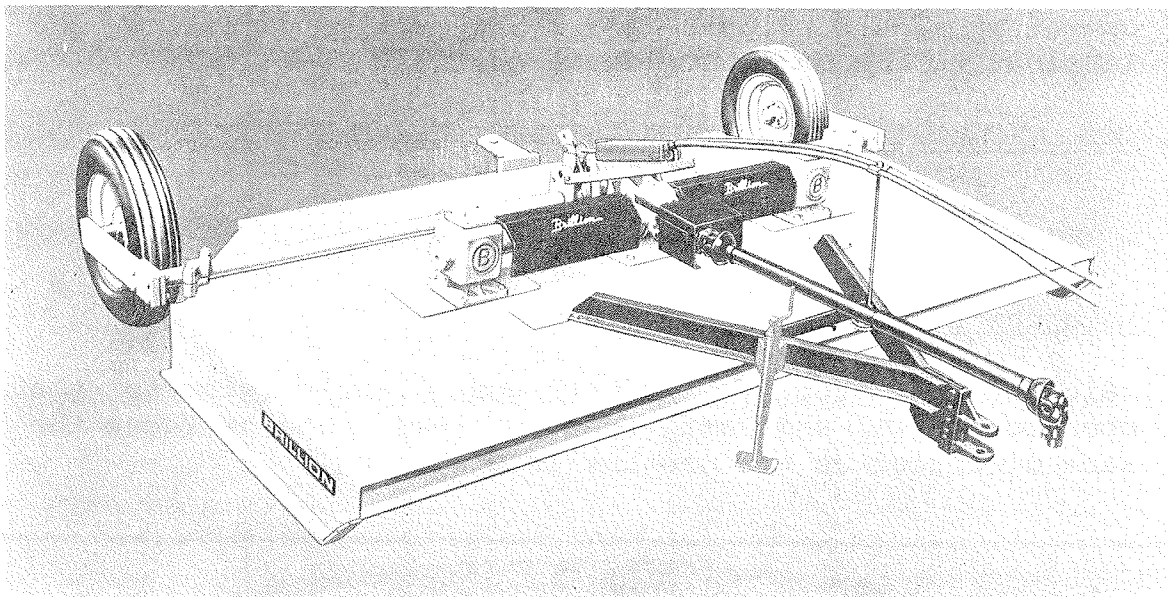
OPERATOR'S MANUAL



144" ROTARY SHREDDER

MODEL R-144-01

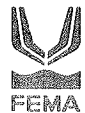
R-144-02



BRILLION IRON WORKS, INC.
BRILLION, WISCONSIN

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7D-25



Brillion

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.

* * * * *

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.

SAFETY INSTRUCTIONS



Federal regulations require that at the time of initial assignment and at least annually thereafter, each employee shall be instructed in the safe operation and servicing of all equipment which he will be operating. This instruction shall cover the following safe operating practices:

1. Keep all guards and shields in place when machine is in operation.
2. Stop engine, disengage PTO and wait for all movement to stop before servicing, adjusting, cleaning, or unclogging machine.
3. Keep hands and feet away from machine openings and moving parts when operating.
4. Do not allow anyone but operator to ride tractor or equipment.
5. Make sure everyone is clear of machine before starting engine, engaging PTO or operating machine.
6. Run PTO at proper PTO speed for this machine. Refer to tractor Operator's Manual for proper engine speed to obtain proper PTO speed.
7. If servicing or adjusting require the temporary removal of any shield, wait until all movement has stopped before attempting to lift or remove shield.
8. Block machine up when working under the machine. Do not rely on hydraulic cylinders to support machine or machine parts.
9. Do not transport machine at speeds where the operator loses control. Do not exceed 20 mph under any conditions.

SPECIFICATIONS

Model - - - - - R-144 Rotary Shredder
Cutting Width - - - - - 139"
Cutting Height- - - - - 1" - 14" (Adjustable)
Wheel Positions- - - - - Side Mounted
Rear Mounted
Blades- - - - - Two sets - heat treated
alloy steel
Center Cross Drive - - - - - 1 to 1 ratio
Blade Drive - - - - - Twin drives with reversi-
ble gears to accommodate
both 540 and 1000 rpm
tractor PTO speeds
Bearings - - - - - Tapered roller bearings
Drive Coupling - - - - - Flexible - multiple disc
involute spline hubs
Power Shaft - - - - - Heavy duty - two joint -
needle bearing - integral
shield. Three joint optional.
Shear Pin Coupler - - - - - (Optional) (2) 5/16" diam-
eter pins with replaceable
bushings
Slip Clutch - - - - - (Optional) Multiple disc -
adjustable
Wheel Sizes - - - - - Three types available -
(1) 14" Pneumatic
(2) 15" Pneumatic
(3) Laminated Rubber
Hitch - - - - - Drawbar type only - adjusts
to tractor.

OPERATION

The Brillion Shredder is designed to operate with tractors having either 540 or 1000 rpm PTO speeds. If a change of tractors is contemplated, it will be necessary to order the proper tractor yoke, and also make the necessary gear changes in the spindle drives. 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 SAE #90 oil in winter and antifoam #140 in summer. Grease the PTO joints, and lift shaft bearings. The wheel bearings have been packed at the factory.

With the wheels in the forward position, the shredder will balance very well, but with the wheels in the rearward position, the shredder will be quite heavy on the drawbar. The drawbar jack should be used in hitching and storage of the shredder.

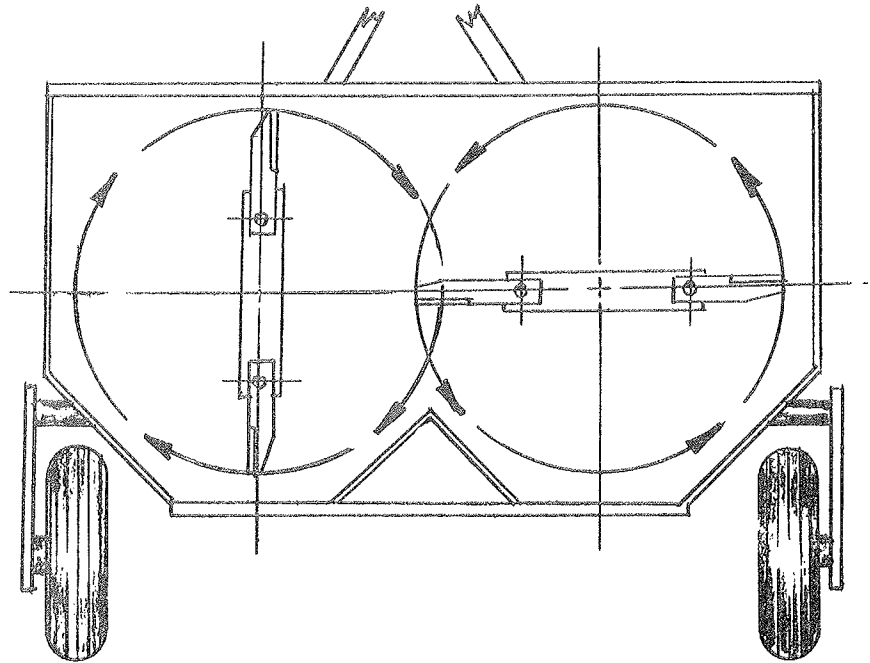
When starting a swinging-blade shredder, the blades are usually not in balance at first, and the machine will shake violently if started too quickly. Engage the PTO slowly at a low throttle setting. The blades will balance quickly and you may increase speed. Try to avoid starting the machine directly in heavy work. Give the blades a chance to balance first.

When operating, set the cutting height so as to avoid rocks, wire, etc. and keep blades out of the ground. Short life of the blade edge almost always means abrasive or rocky conditions have been encountered.

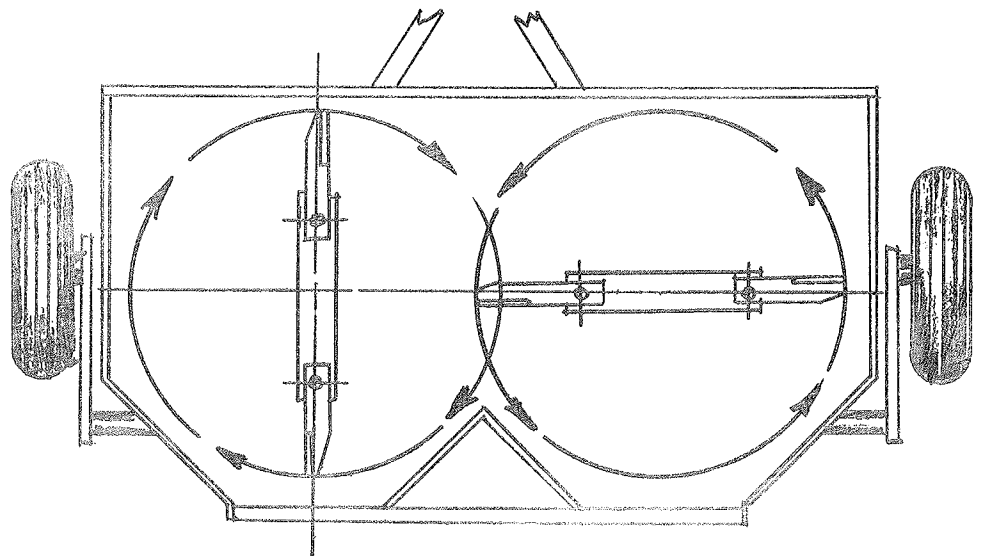
When shredding corn stalks, best results can be obtained by traveling in the opposite direction to which the picker had traveled. This allows the corn to remain attached to the root structure until the entire stalk has been cut up. The hood should be dropped down in front, with the rear of hood 8" to 10" above the ground. 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.

WHEEL LOCATION

Wheels in
Trailing Position



Wheels in
Side Mounted
Position



Wheel Positioning

The wheel location can be changed simply by removing the 4 bolts on the lift shaft plates, and mounting the wheels in the position desired. When working close to fences, it is advisable to mount the wheels in the trailing position, with the wheels facing in toward the center of the machine. This will allow cutting closer to fence rows, trees, etc.

Cutting Height

The desired cutting height can be controlled by the tractor remote control cylinder. 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.

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.

Shear Pin Coupler

The twin pin shear coupler will transmit ample power to operate the shredder satisfactorily and also provides the necessary safety to prevent shock or overload damage to the shredder and tractor. When replacing shear pins, never use hardened pins or bolts. Use regular 5/16 x 2-1/2" long bolts. Do not draw the shear pin nuts up too tight, rather allow about 1/64" end play. Use locknuts or double nuts to keep bolts from loosening. The shear flanges have hardened bushings. Broken or worn bushings should be replaced to provide satisfactory operation of the shear coupling.

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.

Change-Over Instructions for Spindle Drives from 540 to 1000 RPM Operation

This change-over is accomplished by reversing the position of the bevel gear and pinion in each of the outboard spindle drives. Place the input gear on the output shaft and the output pinion onto the input shaft.

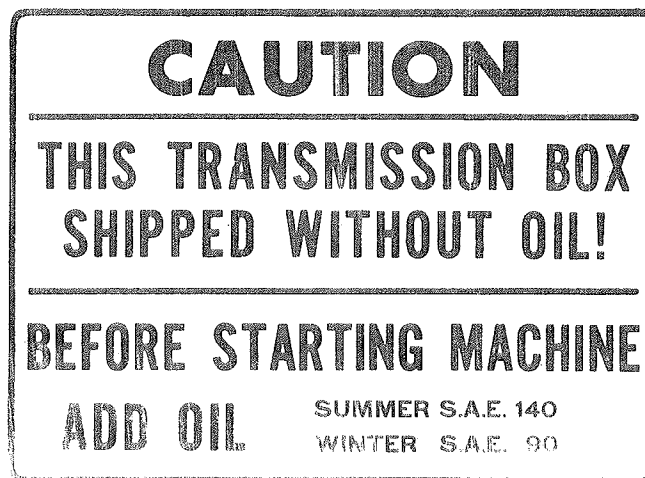
When changing the machine over for 1000 rpm PTO operation, the tractor joint will have to be changed to a 21 tooth spline yoke. (Order part no. 1D-791 Tractor Yoke.)

Flexible Coupler

The flexible coupling shafts connecting the two outboard blade drive boxes to the center drive box are designed to absorb shock as well as misalignment. When replacing worn coupler discs, draw up evenly on the (6) coupler bolts, until the discs are compressed to an over-all width of 1-3/4" (measuring from outside to outside of the rubber discs). This will provide the proper compression of the discs and washers to transmit the power to the blade drives. Be sure the cotter pins are inserted in each of the slotted nuts.

Lubrication

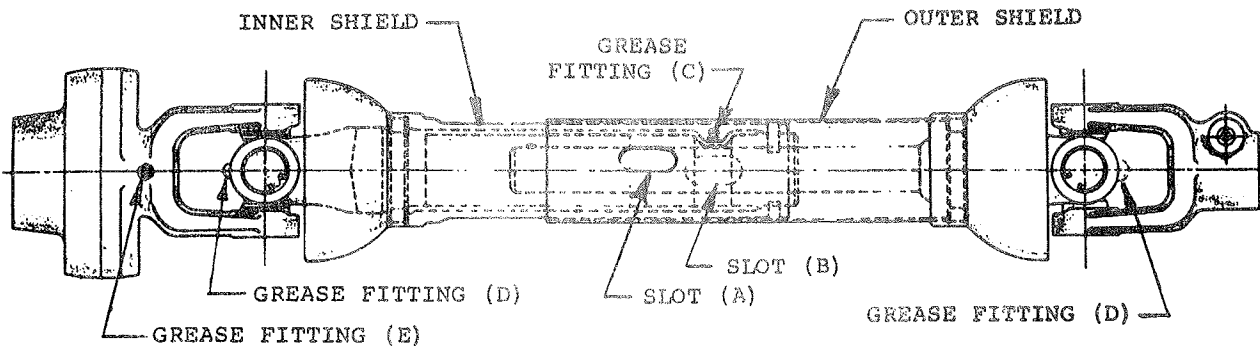
The center (T-Box) gear housing and the right and left blade drive gear housings will require lubrication, before the shredder can be operated. A caution tag similar to the one found on the shredder is pictured below.



Follow the lubrication instructions found on this tag and check the level of oil in the drives as shown in the chart below.

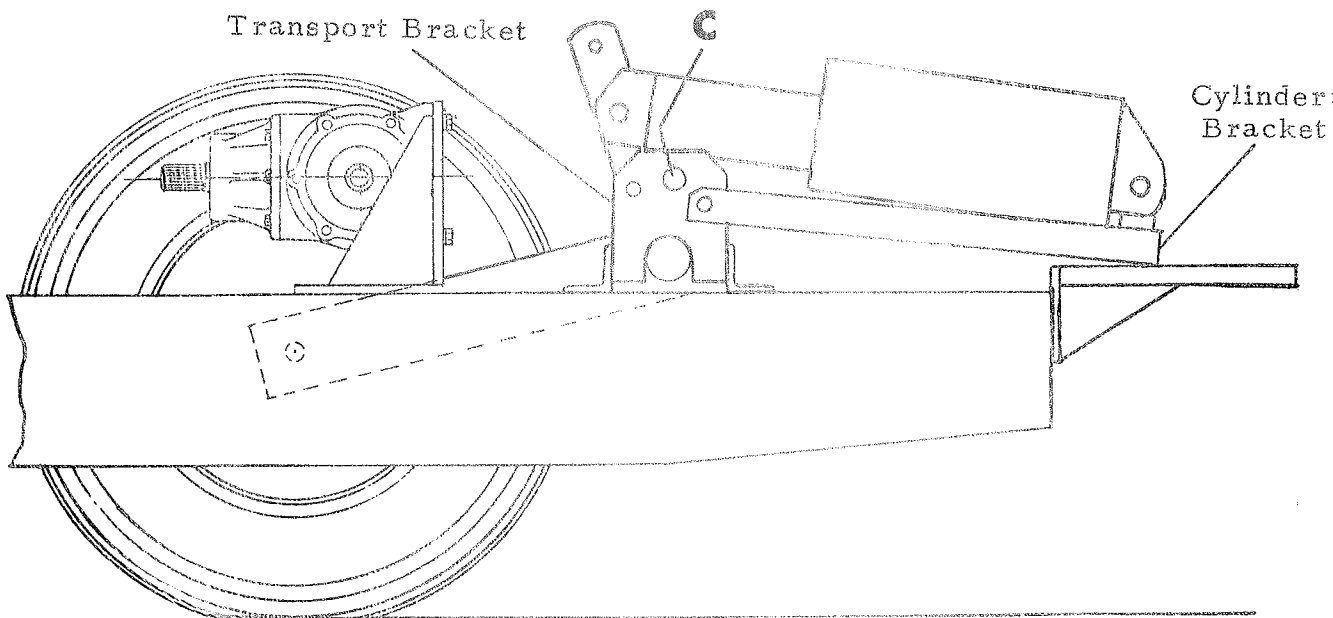
Center "T" Box	Fill to level with SAE 140 gear lubricant. Check oil level daily.
Blade Drive Units	Fill to level with SAE 140 gear lubricant. Check oil level daily.
Wheel Hubs	Lubricated at factory. Repack bearings once a year.
Lift Shaft Bearings	Grease after each 10 hours of operation.
Universal Joint Shaft	Grease after each 10 hours of operation (for lubrication of PTO shaft, see chart below).

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 fittings at (D) and (E). Grease all PTO fittings after each 10 hours of operation.



Transport Axle Lift

To assemble the lift mechanism, locate the transport bracket directly behind the center drive fastening it with the 5/8 x 1-3/4 long capscrews provided with the bracket. Be sure to notice the bracket has the letter "R" inscribed. This represents the part of the bracket to be toward the rear of the machine. Of the two small holes to which the cylinder bracket is attached, the lower hole should be nearest to the rear of the machine. When attaching the cylinder bracket to the transport bracket, be sure the fastener's head is inside the transport bracket.



R-144 SHREDDER
WITH
WHEELS SIDE MOUNTED
(See following page for instructions)

Instructions for Attaching Remote Hydraulic Cylinder

A. With Shredder Wheels Side Mounted -

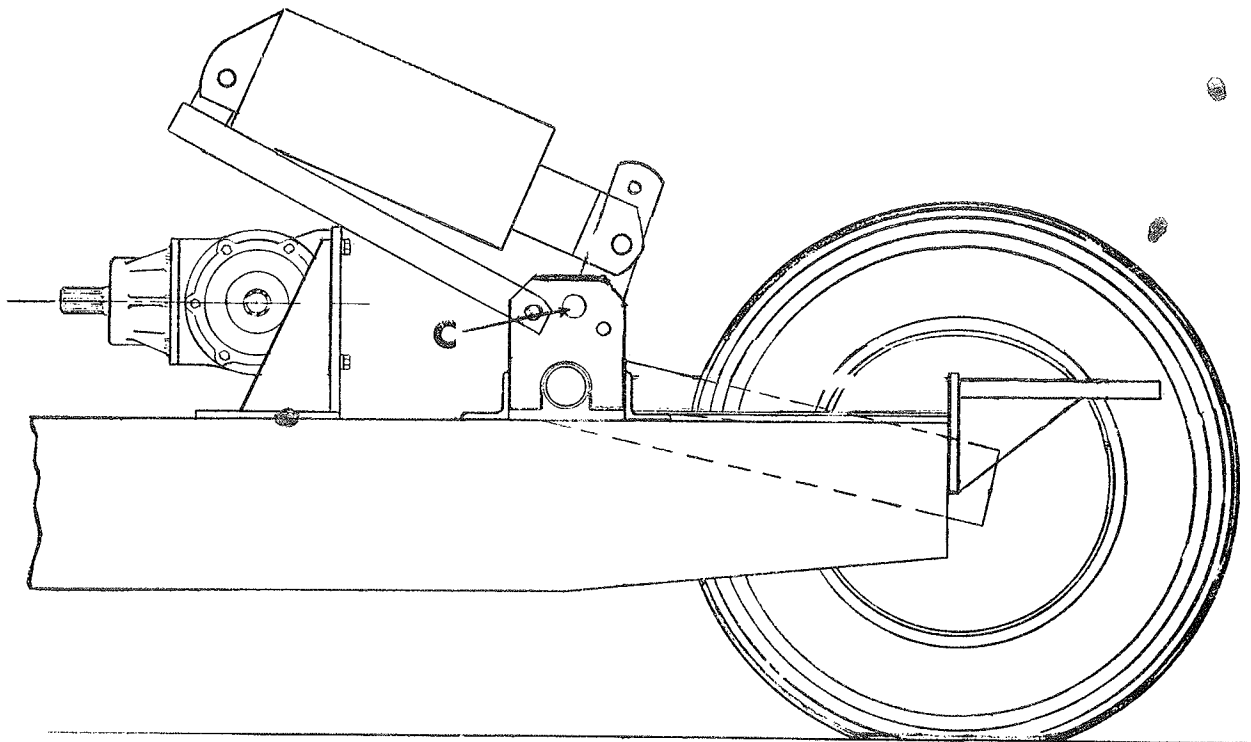
Attach the cylinder bracket to the rear holes of the transport bracket. Use the 3/4 x 2" long, grade 5 capscrews provided with the cylinder bracket. The lug to which the cylinder is attached will rest on the rear hitch as shown in the illustration.

B. When the Shredder Wheels are Rear Mounted -

Attach the cylinder bracket to the front holes of the transport bracket. Use 3/4 x 2" long, grade 5 capscrews provided with the cylinder bracket. The lug to which the cylinder is attached will rest over the center drive as shown in the illustration.

C. To Lock Wheels for Transport and Removal of Remote Cylinder -

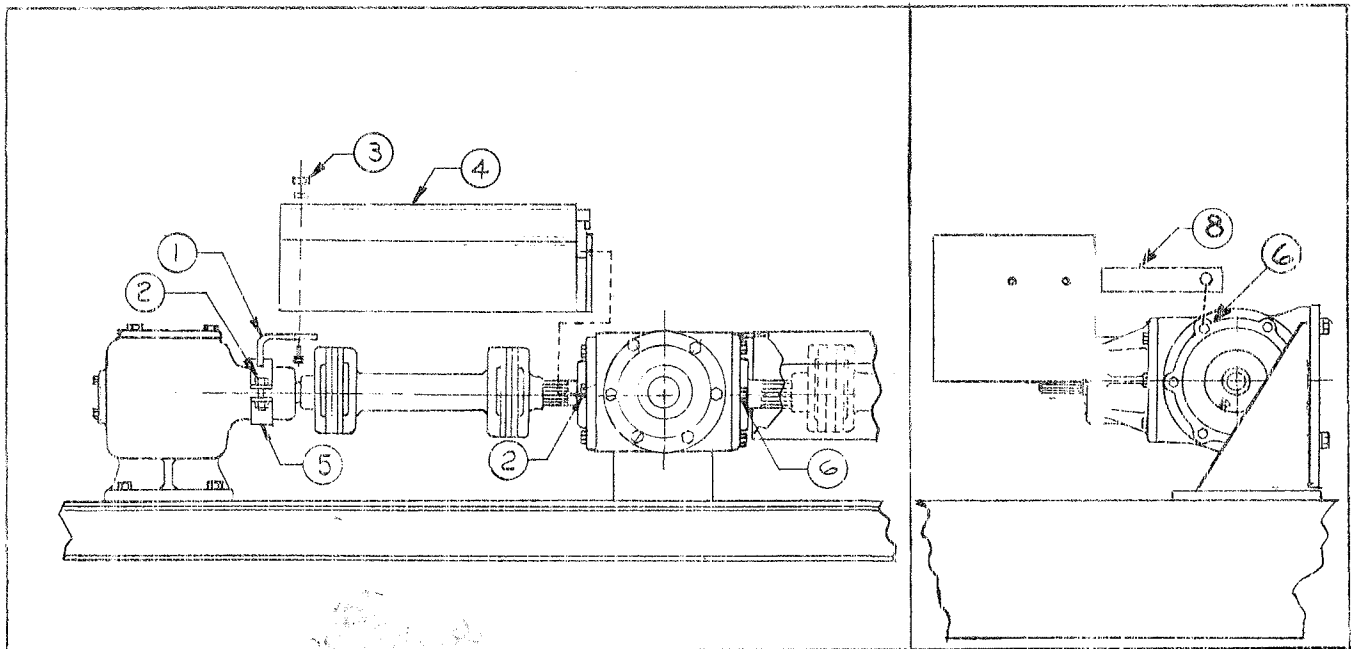
1. Fully extend the remote cylinder.
2. Place round pin through hole (C) in the transport bracket and secure with a hairpin cotter.
3. Retract cylinder until the rocker arm rests on the inserted pin.
4. Remove the cylinder.



R-144 SHREDDER WITH WHEELS REAR MOUNTED

(See instructions above)

ASSEMBLY INSTRUCTIONS
FOR
ATTACHING THE SHIELDS TO R-144 ROTARY SHREDDER



To assemble the shields to the shredder, begin by attaching the (2) #1 and #5 clamp support and clamps to the outer gear housings as shown in the illustrations. Do not draw the #2 clamp bolts up until all the other parts have been attached. Then remove the #6 flange cap screws from each of the flanges as shown in the illustrations, and place the shields in position. Bolt them in place using the #2 (3/8-16 N. C. x 1-1/4" long) bolts to attach to each of the flanges. After this has been completed, slide the #1 and #5 clamps under the #4 shields until the single hole in the top of the shield lines up with the hole in the #1 bracket, and insert the #3 (3/8-16 N. C. x 1" long) bolts, and fasten with lockwashers and nuts, and draw up tight. Assemble the #8 PTO shield to the drive housing by removing the #6 cap screws indicated in the illustration and replace with the #2 cap screws.

Complete the assembly by drawing up the two #2 bolts, nuts, and lockwashers on each of the clamps.

SAFETY INSTRUCTIONS

1. DO NOT UNDER ANY CIRCUMSTANCES ALLOW ANYONE TO REMAIN IN VICINITY OF MACHINE WHEN STARTING & OPERATING.
2. OPERATOR MUST REMAIN ON TRACTOR WHILE POWER TAKE-OFF IS IN MOTION.
3. NEVER MAKE ADJUSTMENTS, LUBRICATE OR CLEAN MACHINE WITH ANY PART OF MACHINE IN MOTION.
4. KEEP ALL SHIELDS IN PLACE.
5. DO NOT ALLOW ANYONE TO RIDE THE MACHINE.
6. DO NOT OPERATE SHREDDER IN EXCESS OF STANDARD TRACTOR PTO SPEED.

INSTRUCTION SHEET

for ASSEMBLY OF SPLINED YOKE $\frac{W}{}$ SET SCREW to SPLINED SHAFT

- 1 - Loosen the lock nut (B) in the yoke (F) and back off the set screw (A) with the Hex Allen wrench provided.
- 2 - Align the set screw in the yoke, with the tapered hole (C) in the splined shaft.
- 3 - Slide the splined yoke (F) on the splined shaft (E) until it rests against the bearing at (D).
- 4 - Now turn the set screw (A) down tight into the tapered hole (C). This will cause the yoke (F) to be clamped against the bearing at (D) to eliminate the end play of the yoke on the shaft.
- 5 - Lock the set screw by holding it with the Hex Allen wrench, drawing down tight on the hexagon lock nut. This will prevent loosening of the set screw and joint on the splined shaft.

SPLINED JOINT & SHAFT ASSEMBLY

