

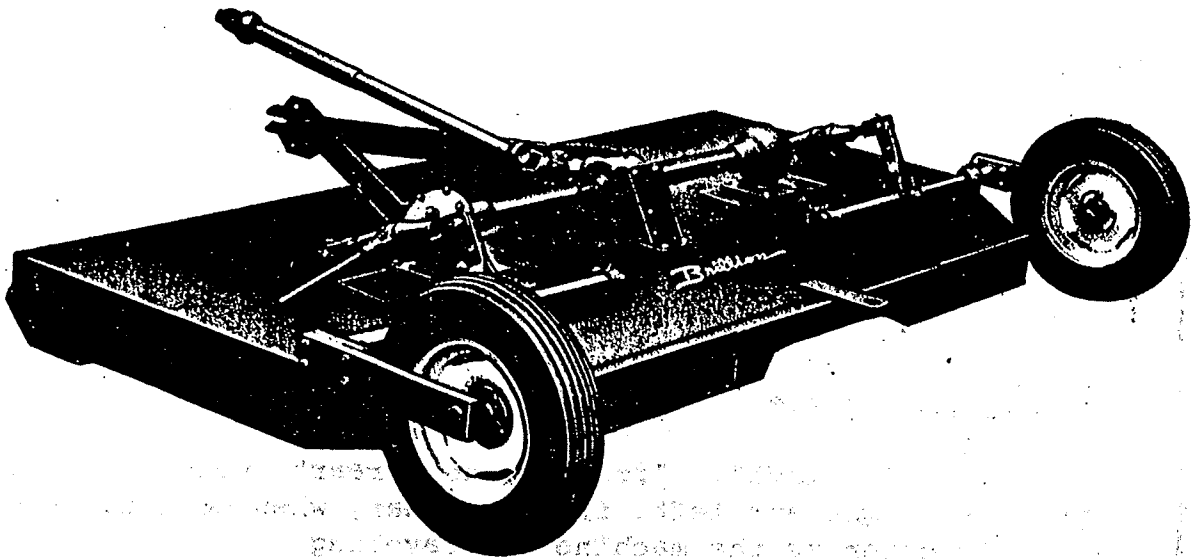
9C-494

REPAIR PARTS CATALOG OPERATOR'S MANUAL

Brillion

144" ROTARY SHREDDER

MODEL RSS-144-01 THRU -09



5-07301
BRILLION IRON WORKS, INC.
Brillion, Wisconsin, U. S. A.

570

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.

SPECIFICATIONS

Model - - - - -	RSS-144 Rotary Shredder
Cutting Width - - - - -	139" - 144" (Adjustable)
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 - drive in- verts for reversing blade rotation
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
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 - ad- justs 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 #140 in summer. Grease the PTO joints, and lift shaft bearings. The wheel bearings have been packed at the factory.

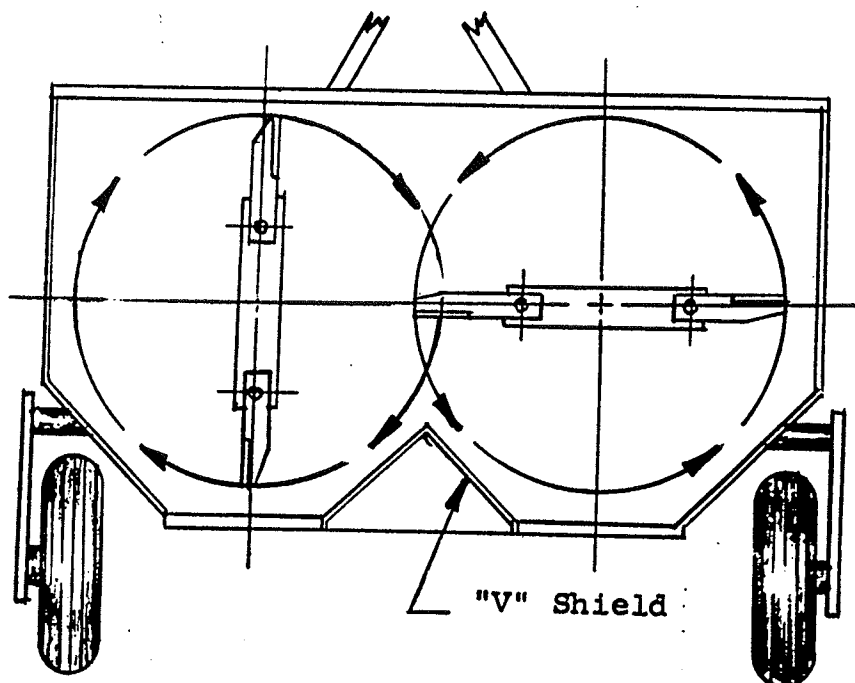
With the wheels in the forward position, the shredder will balance very well, but with the wheels in the rearward position, the shredder will be quite heavy on the drawbar. The drawbar jack should be used in hitching and storage of the shredder.

The two outer blade drive boxes can be moved in or out to adjust the blade circle overlap. The greater the amount of overlap, the less will be the chance of stripping. Some lap is desirable when cutting grass, grain, straw, etc. The amount of overlap required to eliminate stripping is best determined by the operator due to variations in field conditions. Working in row crops usually requires no overlap. This will allow a wider cut, and provide overlap in the outside row centers.

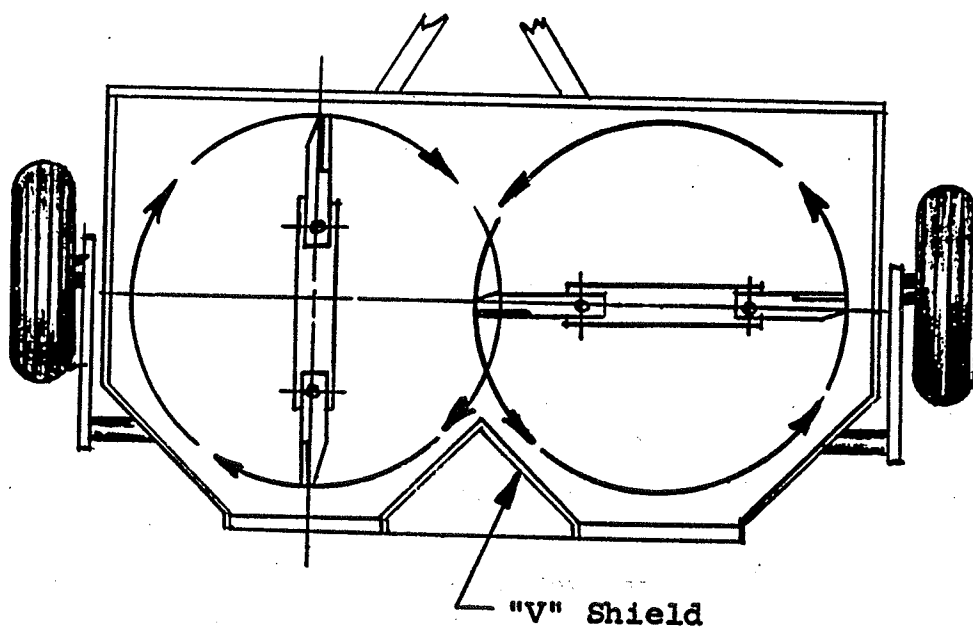
The machine when shipped has a "V" shield attached to the rear bottom side of the hood. When shredding stalks, etc., this shield should remain in position. This will result in shorter cut material and uniform spreading of material across the rows. When shredding corn stalks, best results can be obtained 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 or the ratchet screw jack. 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.

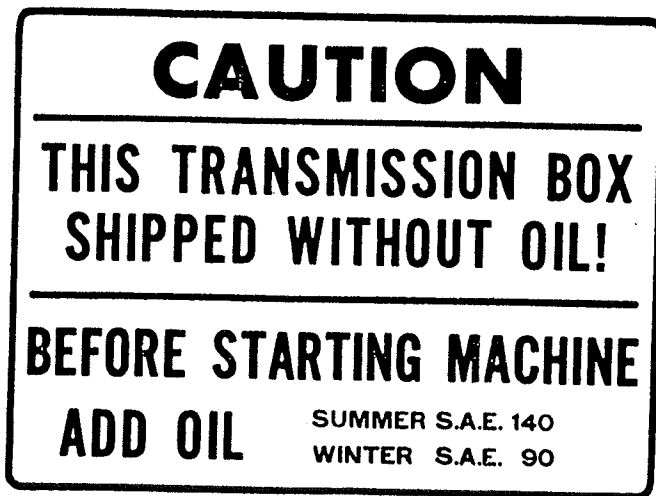
When changing the machine over for 1000 rpm PTO operation, the tractor joint will have to be changed to a 21 tooth spline yoke. (Order part no. 1D-791 Tractor Yoke.)

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

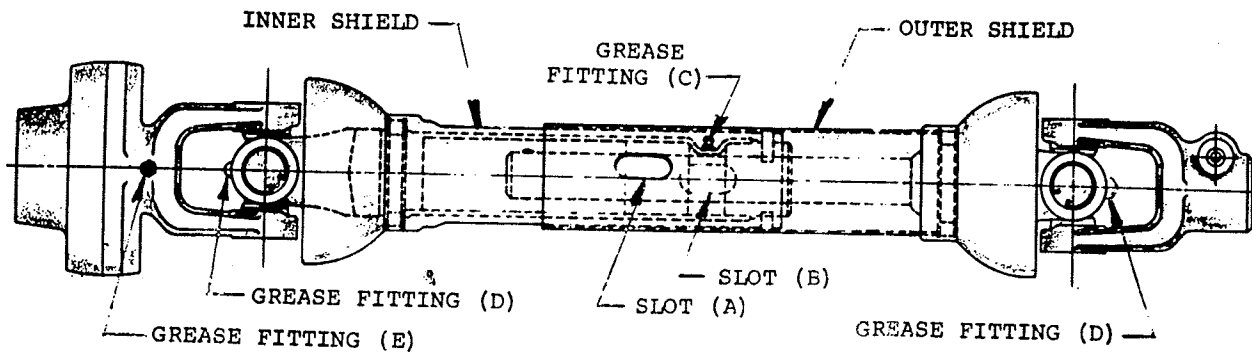
The center (T-Box) gear housing and the right and left blade drive gear housings will require lubrication, before the shredder can be operated. A caution tag similar to the one found on the shredder is pictured below.



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).

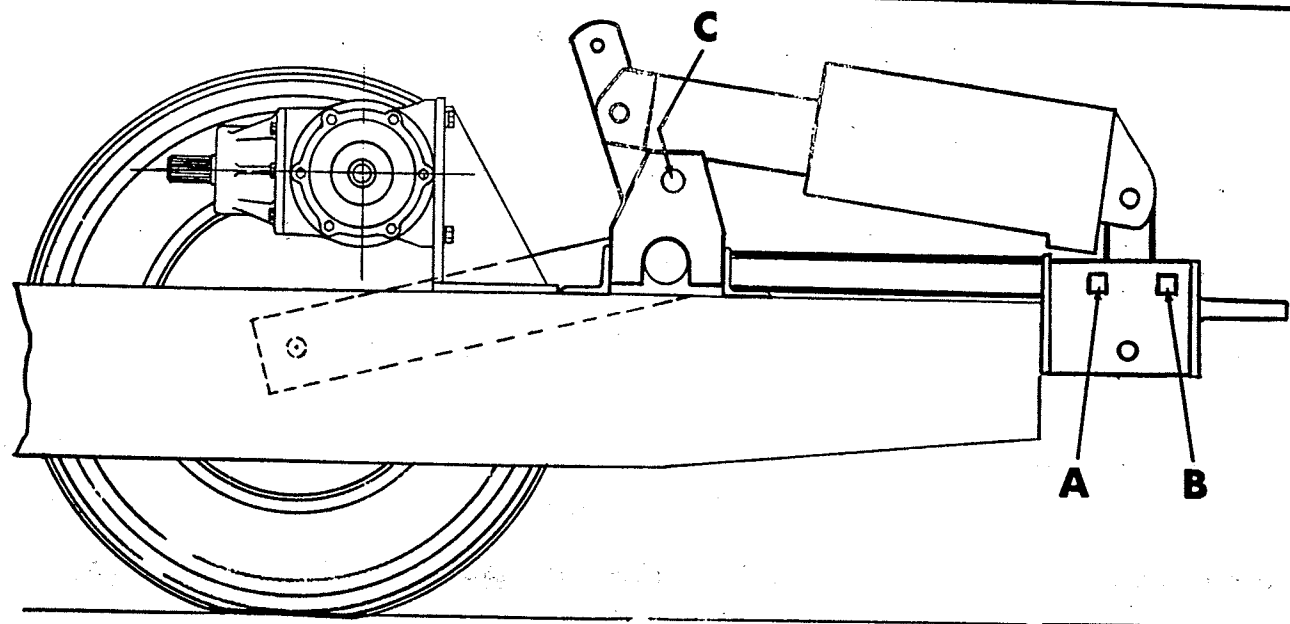
To grease the square shaft in the PTO, it may be necessary to detach the universal joint from the tractor. Rotate and slide the outer shield until slot (A) lines up with slot (B) in the inner shield, then rotate both shields until the grease fitting (C) is in line with the openings. Also grease fittings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



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Manual and Hydraulic Lift

The RSS-144 Rotary Shredder is made available for either the remote hydraulic cylinder lift or the manual ratchet jack lift. Two ratchet jacks are required for the latter type of lift, while one remote tractor cylinder is required for the hydraulic lift. The hydraulic cylinder should be the standard ASAE 8" stroke type. Instructions for attaching and detaching of the remote tractor cylinder and operation of the shredder lift follows - -



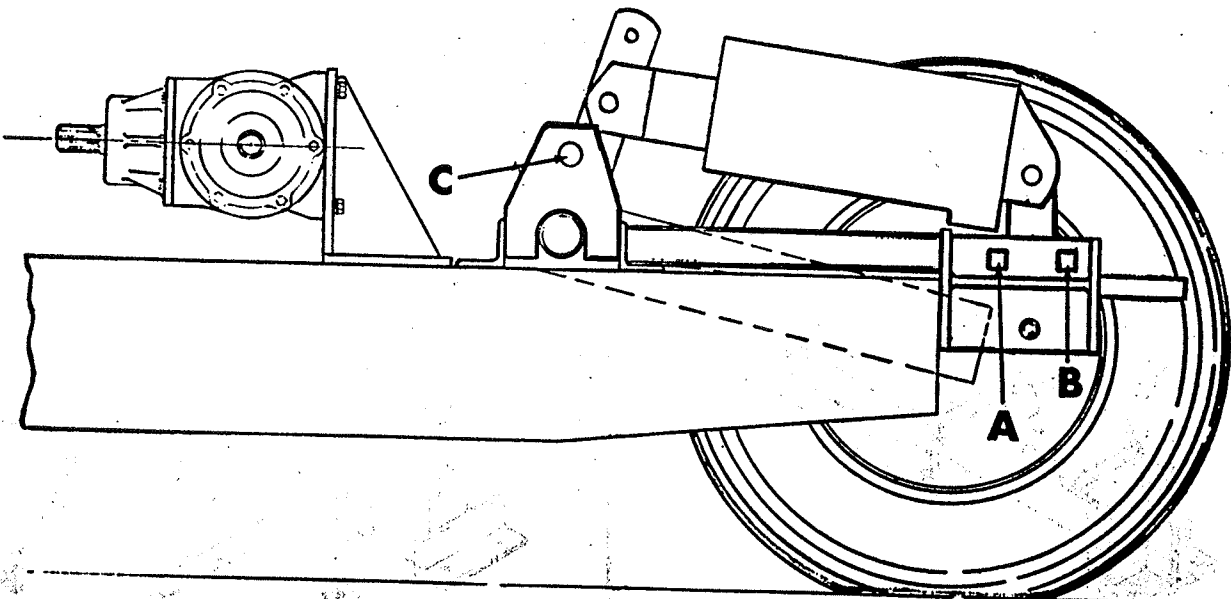
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RSS-144 SHREDDER WITH WHEELS MOUNTED FORWARD (See following page for instructions)

Instructions for Attaching Remote Hydraulic Cylinder

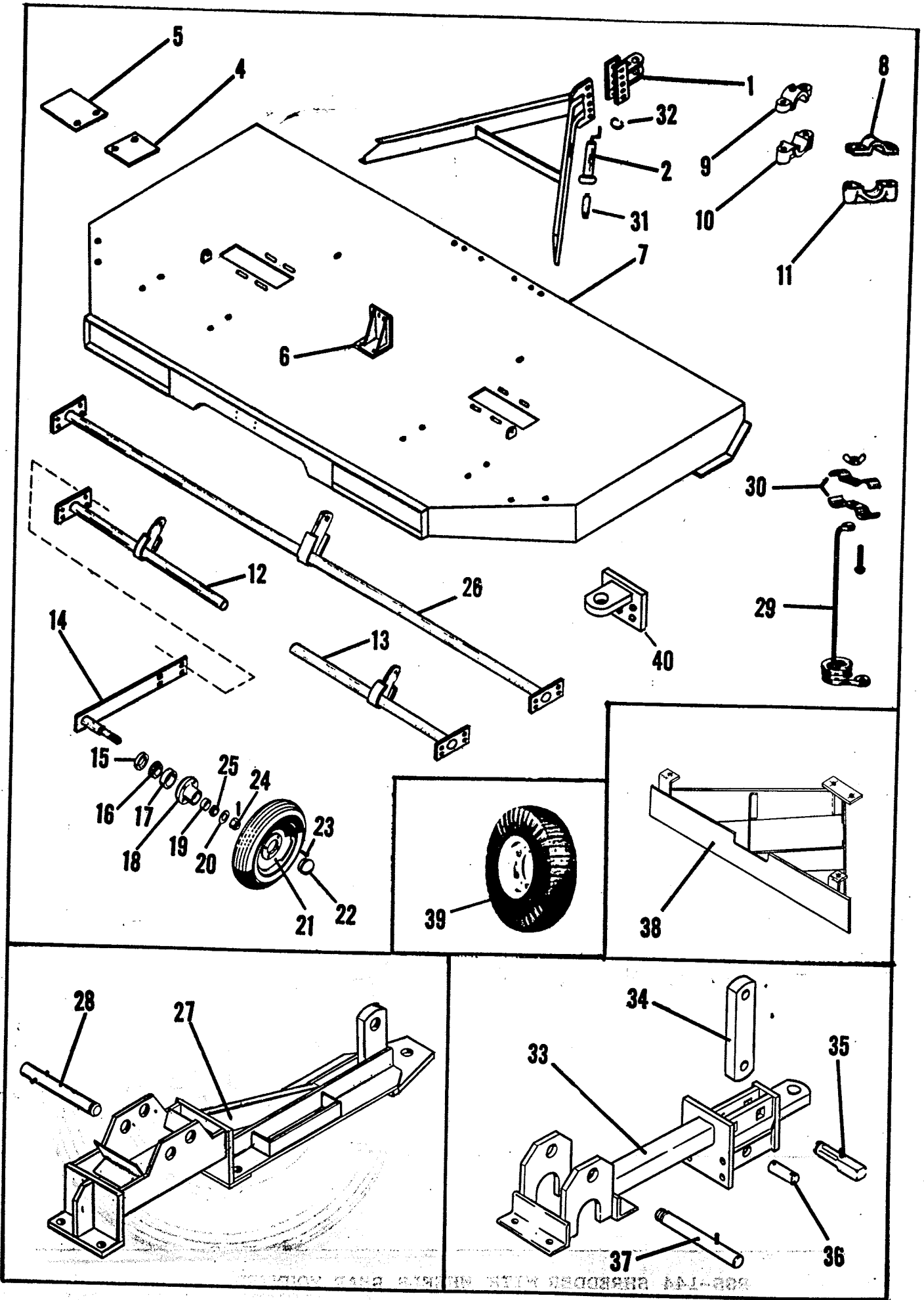
- (1) With shredder wheels forward (side mounted)
 - 1- Remove square pin from holes (A) or (B).
 - 2- Attach rear yoke of cylinder to rocker arm - and the cylinder rod yoke to the lift arm.
 - 3- Retract cylinder enough to allow placing of square pin through hole (B).
 - 4- Secure square pin with hair pin cotter.
- (2) To lock wheels for transport - and removal of tractor cylinder
 - 1- Fully extend tractor cylinder.
 - 2- Place round pin through hole (C) in the forward bracket and secure with hair pin cotter.
 - 3- Retract cylinder until rocker arm is away from square pin at (B).
 - 4- Remove cylinder.

- (3) When shredder wheels are rear mounted (trailing position)
 - 1- Remove square pin from holes (A) or (B).
 - 2- Fully retract cylinder and attach the rear yoke of the cylinder to the rocker arm - and the cylinder rod yoke to the lift arm.
 - 3- Extend the cylinder enough to allow placing the square pin through hole (A).
 - 4- Secure square pin with hair pin cotter.
- (4) To lock wheels for transport - and removal of tractor cylinder.
 - 1- Fully retract hydraulic cylinder.
 - 2- Place round pin through hole (C) in the forward bracket and secure with hair pin cotter.
 - 3- Extend cylinder until rocker arm is away from square pin at (A).
 - 4- Remove cylinder.



RSS-144 SHREDDER WITH WHEELS REAR MOUNTED

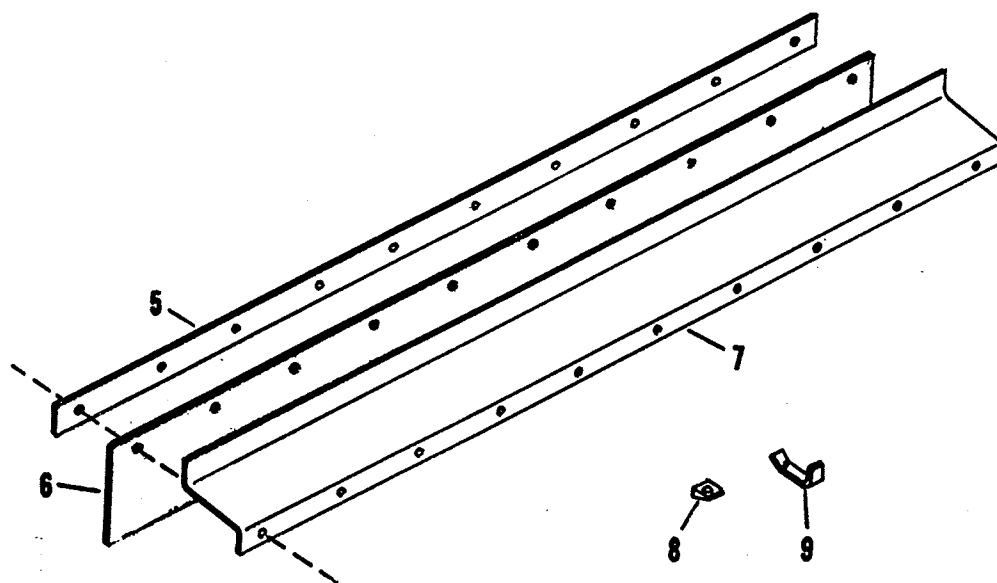
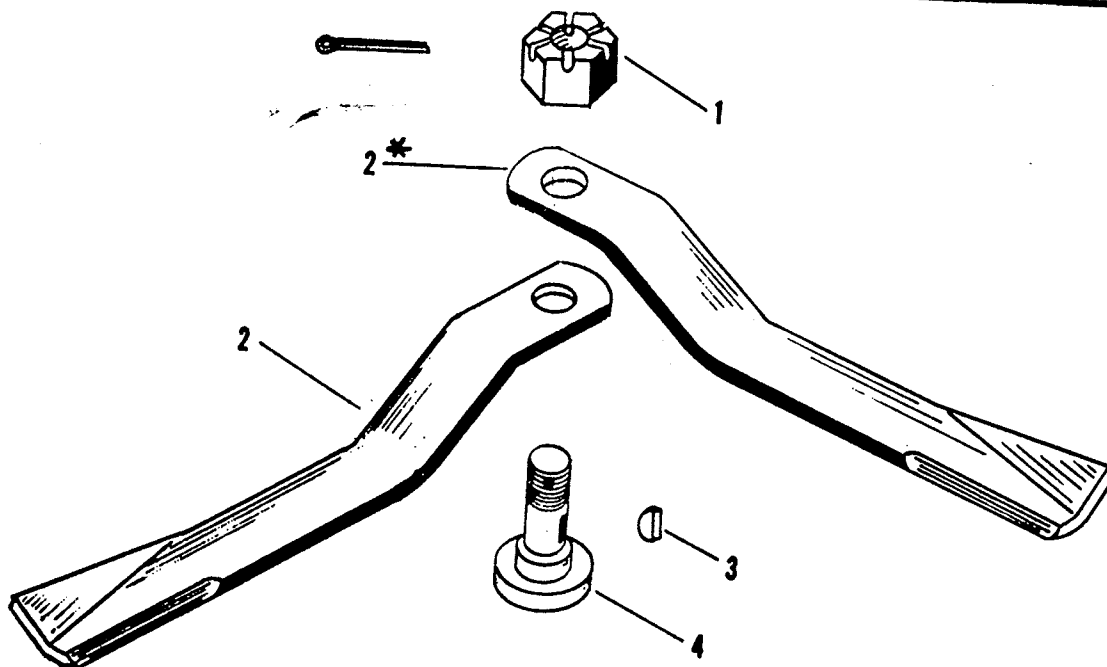
(See instructions above)



HOOD, DRAWBAR AND AXLE ASSEMBLY

Index No.	Part No.	Description
1	1D-293	Heavy Duty Hitch
2	1D-562	Drawbar Jack
3	9C-373	Drawbar Assembly
4	9C-384	Cover Plate
5	9C-385	Cover Plate
6	1D-315	Gearbox Bracket
7	9C-336	Hood Assembly
8	9C-367	R. H. Axle Bearing Assembly
*	9C-366	L. H. Axle Bearing Assembly
9	4C-758	Top Axle Bearing Assembly
10	4C-778	Bottom Axle Bearing
11	9C-362	R. H. Bottom Axle Bearing
*	9C-363	L. H. Bottom Axle Bearing
12	9C-358	L. H. Axle Assembly
13	9C-359	R. H. Axle Assembly
14	9C-720	Arm & Shaft Assembly
15	5C-910	Seal
16	5C-913	Bearing Cone
17	5C-914	Bearing Cup
18	5C-904	Wheel Hub
19	5C-912	Bearing Cup
20	5C-907	Washer
21	5C-916	Wheel Rim - 15"
	8C-470	Wheel Rim - 14"
22	5C-908	Cap
23	5C-100	Wheel Bolt
24	5C-909	Slotted Nut
25	5C-911	Bearing Cone
26	1D-966	Thru Axle Assembly
27	1D-976	Cylinder Mount Bracket - Used on 0262 - 0362 - 0363
28	1D-989	Transport Pin Assembly - Used on 0262 - 0362 - 0363
29	1D-980	Hose Support
30	1D-981	Hose Clamp
31	1D-767	Plunger Assembly
32	1D-561	Retaining Ring
33	2D-621	Cylinder Bracket & Hook Assy.
34	2D-603	Rocker Arm
35	2D-613	Rocker Lock Pin
36	2D-609	Rocker Pin
37	2D-618	Transport Pin Assy.
38	2D-631	"V" Shield
39	1D-900	6.00 x 9 Laminated Tire & Rim
	1D-933	6.00 x 9 Laminated Tire Kit (2 Wheels with Bolts)
40	2D-671	Rear Hitch Assembly

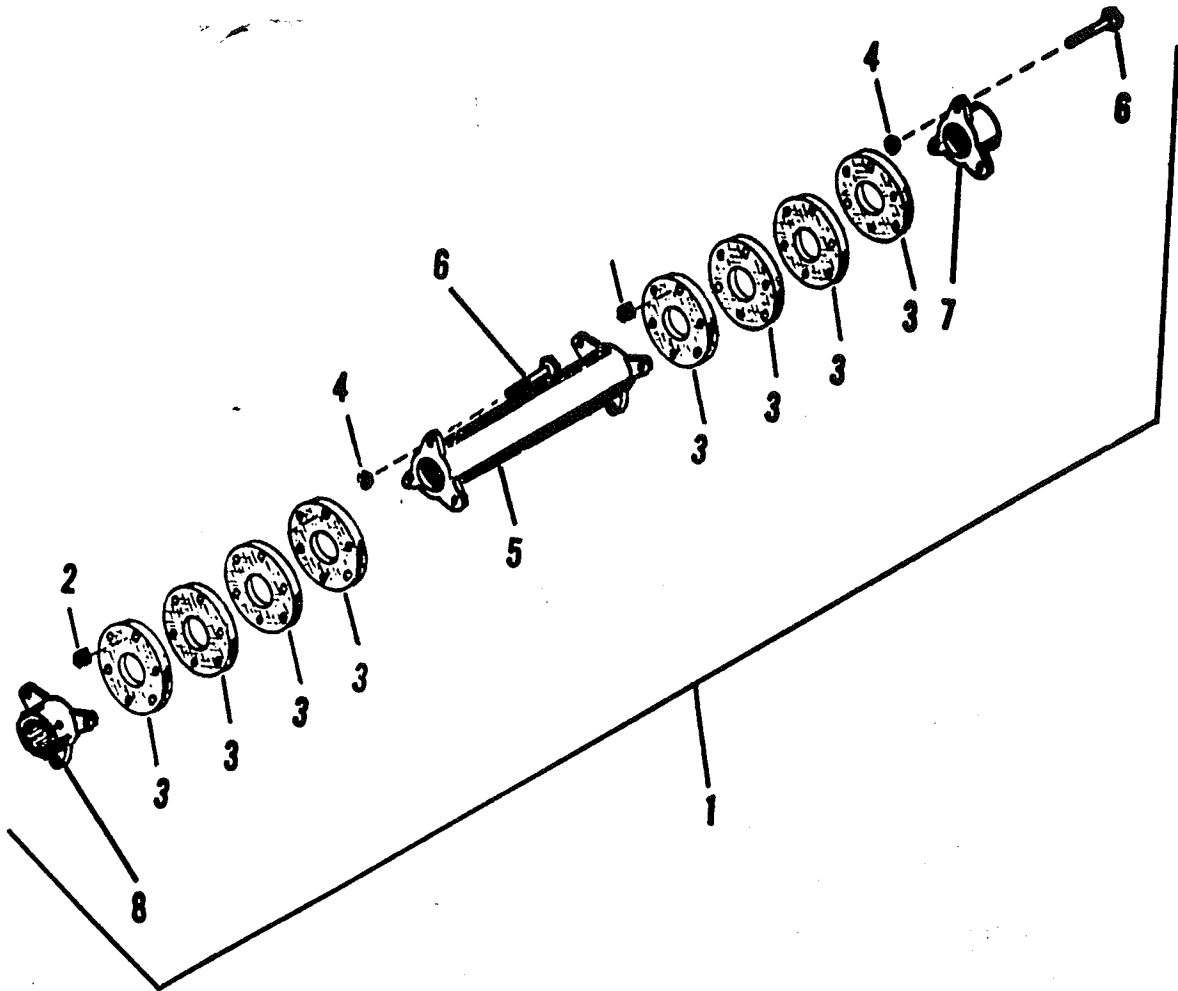
Used on
Model
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BLADE & SHIELD ASSEMBLIES

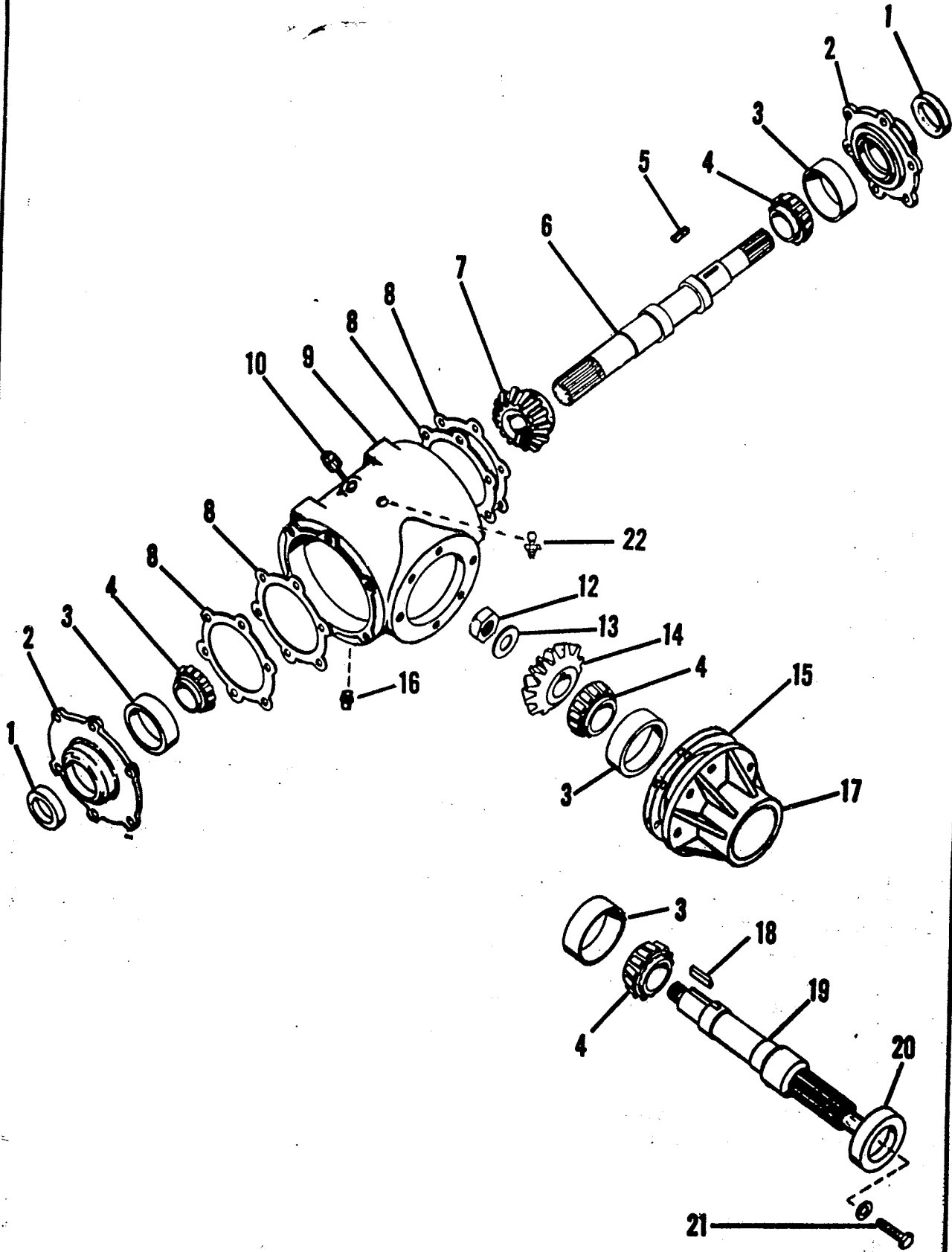
Sym.	Part No.	Description
1.	8C-609	Slotted Nut
2.	8C-599	Swinging Blade - R. H.
2.*	9C-331	Swinging Blade - L. H.
3.	9C-424	Woodruff Key
4.	9C-421	Pivot Bolt
5.	2D-125	Clamp Strap
6.	2D-123	Shield Strip
7.	2D-127	36" Shield Bracket
8.	7C-22	Bevel Washer
9.	2D-181	Clip

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HEAVY DUTY COUPLER ASSEMBLY

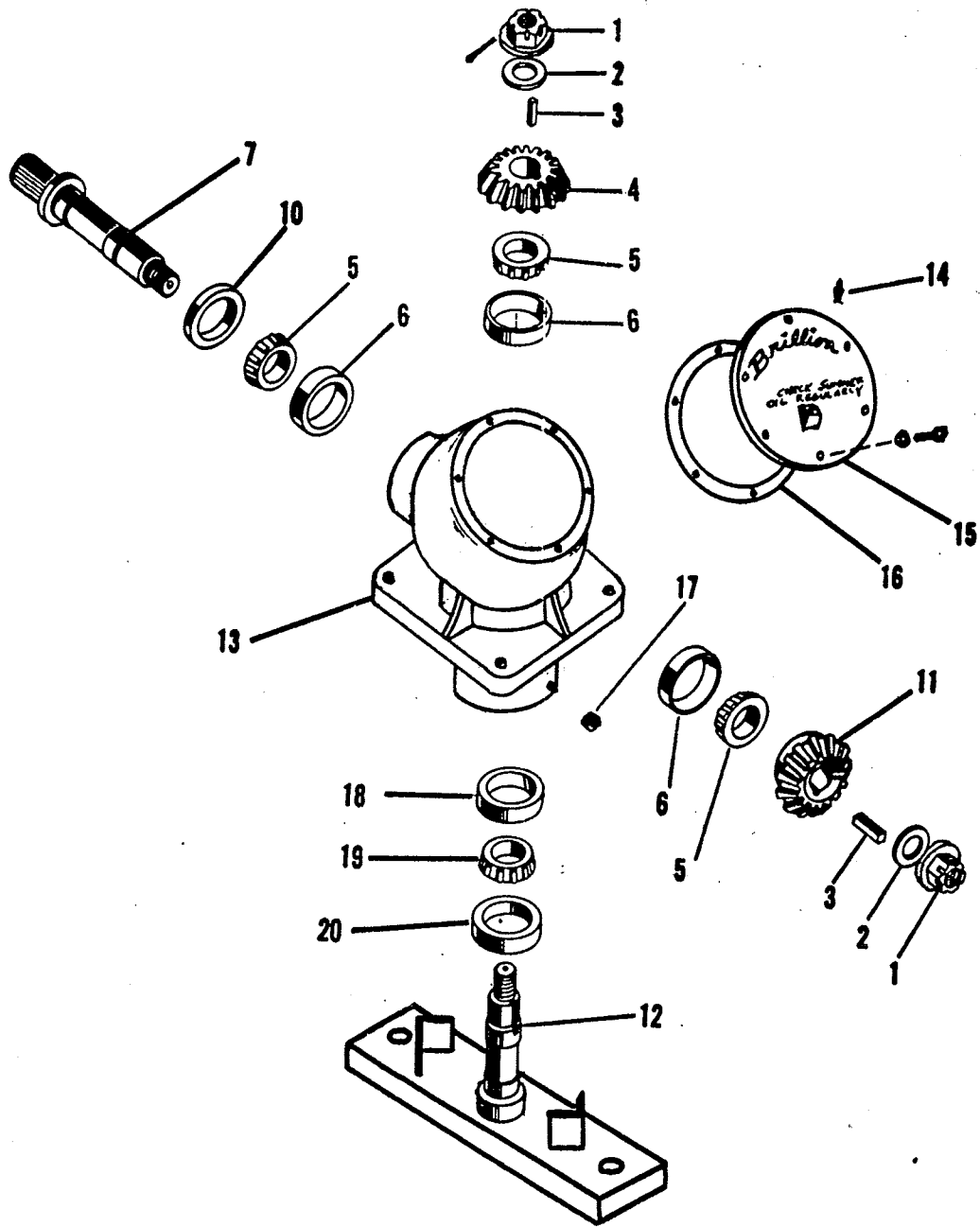
Index No.	Part No.	Part Name
1	1D-726	Heavy Duty Coupler - Complete
2	1D-724	Castellated Nut
3	1D-206	6" Coupling Disc
4	1D-205	Drive Washer
5	1D-745	Drive Tube
6	1D-725	Coupling Bolt
7	1D-531	Sliding Spider
8	1D-529	Spider With Pin Hole



CENTER DRIVE ASSEMBLY

Index No.	Part No.	Description	Used On Model No.
	9C-428	Gearbox Assembly (Complete)	
	3D-521	Gearbox Assembly (Complete)	01 thru 06
1	4C-830	Seal	07 thru 08
2	4C-842	Bearing Flange	All Models
3	4C-832	Bearing Cup #362-A	All Models
4	4C-847	Bearing Cone #367	All Models
5	1D-93	Key	All Models
6	1D-160	Output Shaft	All Models
7	1D-162	Gear - Output	All Models
	*3D-349	Gear - Output	01 thru 06
8	4C-829	Shim (.005")	
	4C-828	Shim (.007")	All Models
	3D-578	Shim (.010")	All Models
9	9C-333	Gear Housing	All Models
10	1D-34	Dipstick Plug Assembly	All Models
12	1D-95	Bearing Locknut	All Models
13	1D-96	Bearing Lockwasher	All Models
14	1D-161	Gear - Input	All Models
	*3D-348	Gear - Input	01 thru 06
15	9C-422	Shim (.005")	
	9C-423	Shim (.007")	All Models
	3D-577	Shim (.010")	All Models
16	4C-837	Pipe Plug (3/8-18 N. P. T.)	All Models
17	9C-332	Bearing Carrier	All Models
18	1D-94	Key	All Models
19	1D-159	Input Shaft	All Models
20	9C-430	Seal	All Models
21	5C-516	Shear Joint Ret. Screw	All Models
22	5C-573	Breather Valve	All Models

*When ordering gears as repairs, for all Center Drives, order one each of 3D-348 and 3D-349. (New gears should always be ordered in sets. Never attempt to run new and worn gears together.)

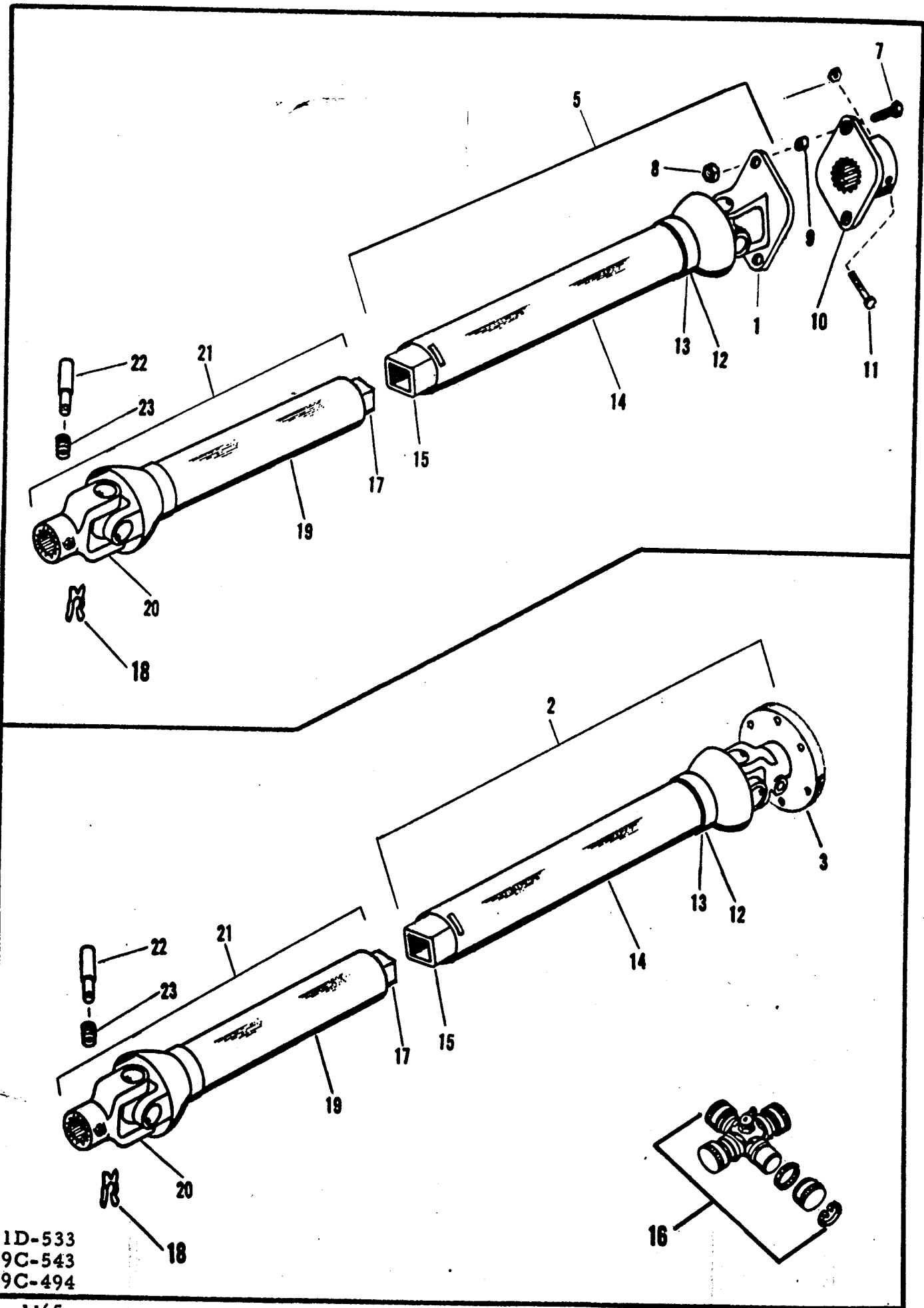


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BLADE DRIVE ASSEMBLY

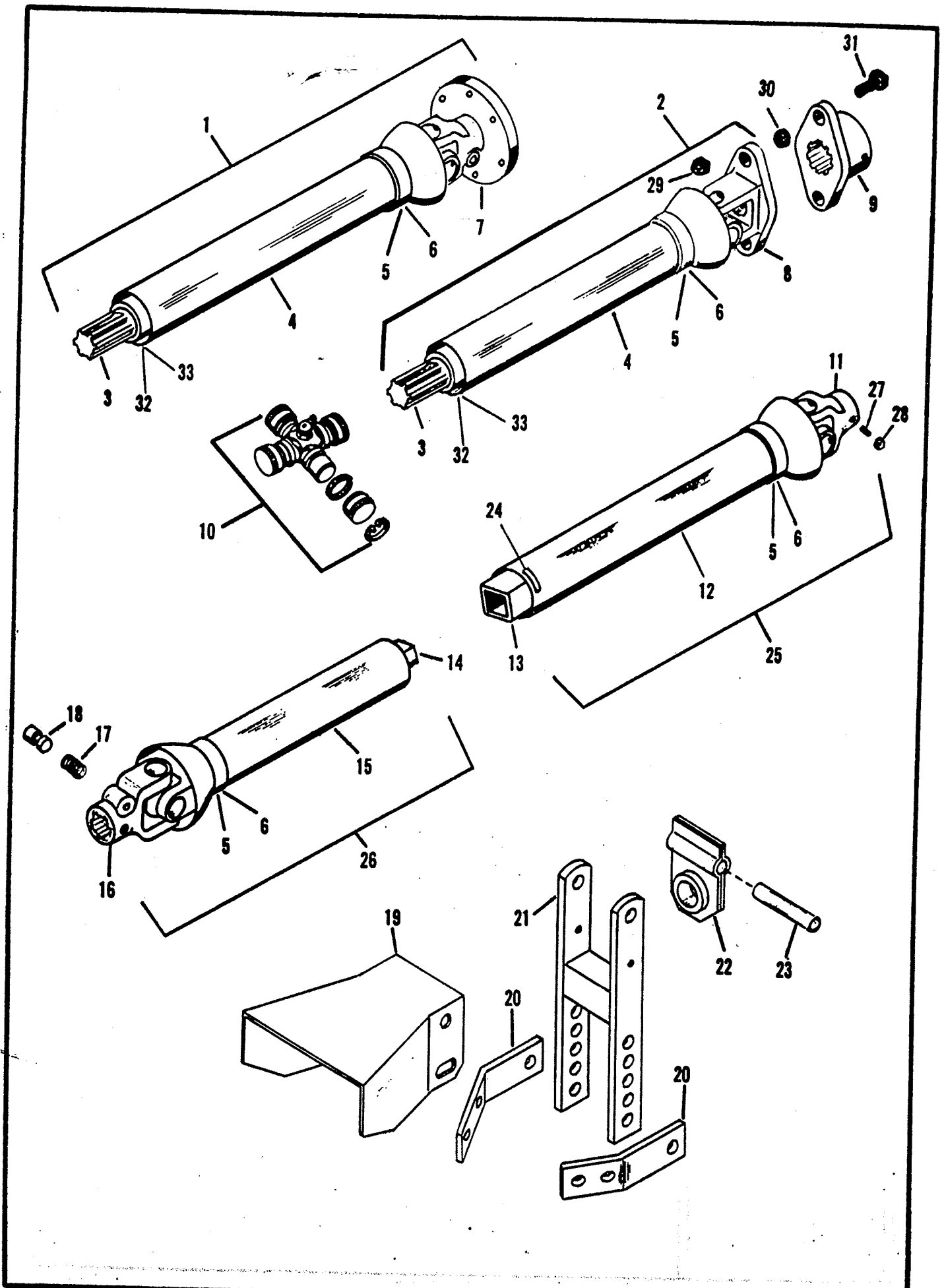
Index No.	Part No.	Description	Used On Model No.
	9C-393	Gear Box Assembly 540 RPM	01
	1D-101	Gear Box Assembly 540 RPM	02
	1D-792	Gear Box Assembly 540 RPM	03 thru 06
	1D-950	Gear Box Assembly 1,000 RPM	03 thru 06
	3D-555	Gear Box Assembly 540 RPM	07
	3D-560	Gear Box Assembly 1,000 RPM	07
	3D-528	Gear Box Assembly 540 RPM	08
	3D-981	Gear Box Assembly 1,000 RPM	08
1	6C-215	Slotted Nut (Order 1D-373)	01 thru 02
	1D-373	Flange Nut (Replaces 6C-215 Nut & 1C-133 Washer)	03 thru 08
2	1C-133	Retaining Washer	01 thru 02
3	4C-905	Key	01
	7C-728	Key	02 thru 08
4	8C-598	Gear, 17-T, Forged 1 Key	01
	1D-105	Gear, 17-T, Forged 2 Key	02
	1D-794	Gear, 17-T, Cut 2 Key	03 thru 06
	3D-351	Gear, 18-T, Cut 2 Key	07 thru 08
5	7C-763	Bearing Cone #LM501349	All Models
6	7C-762	Bearing Cup #LM501310	All Models
7	9C-392	Input Shaft (1 Keyway)	01
	1D-102	Input Shaft (2 Keyways)	02
	1D-795	Input Shaft (2 Keyways)	03 thru 08
10	7C-764	Seal	All Models
11	8C-597	Gear, 23-T, Forged 1 Key	01
	1D-104	Gear, 23-T, Forged 2 Key	02
	1D-793	Gear, 23-T, Cut 2 Key	03 thru 06
	3D-350	Gear, 24-T, Cut 2 Key	07 thru 08
12	9C-315	Output Spindle Assembly (1 Keyway)	01
	1D-107	Output Spindle Assembly (2 Keyways)	02 thru 07
	3D-529	Output Spindle Assembly (2 Keyways)	08
13	8C-572	Gear Box	01 thru 07
	3D-527	Gear Box	08
14	7C-732	Breather Plug (Order 3D-978 & 5C-573)	All Models
	3D-978	Reducer Bushing	All Models
	5C-573	Breather Valve	All Models
15	8C-607	Cover	All Models
16	8C-606	Gasket	All Models
17	7C-403	Pipe Plug - Drain	01
	9C-855	Pipe Plug - Drain	02 thru 08
18	7C-762	Bearing Cup #LM501310	01 thru 07
	4C-832	Bearing Cup #362A	08
19	7C-763	Bearing Cone #LM501349	01 thru 07
	4C-850	Bearing Cone #368	08
20	7C-764	Seal	01 thru 07
	4C-831	Seal	08



1D-533
 9C-543
 9C-494

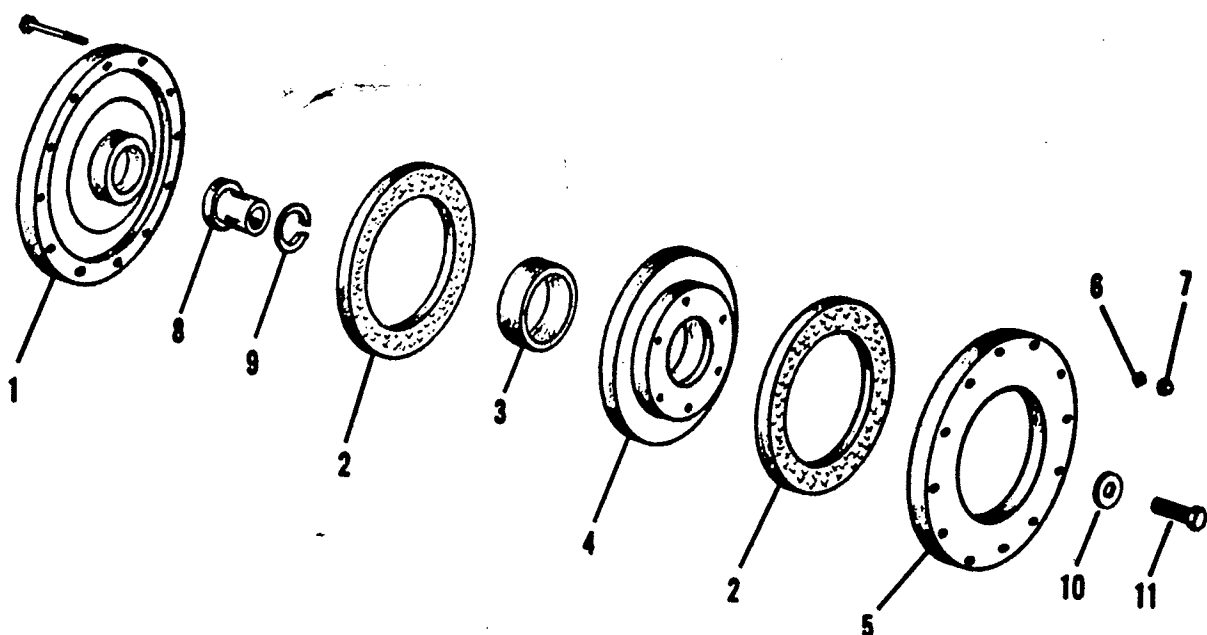
UNIVERSAL DRIVE SHAFT
144" ROTARY SHREDDER

Index No.	Part No.	Description
1	5C-572	Shear Yoke (W-5/16" Bushing)
2	1D-905	Tube & Flange Yoke Assembly (540 rpm P. T. O.)
	1D-953	Tube & Flange Yoke Assembly (1,000 rpm P. T. O.)
3	1D-904	Yoke & Flange Assembly
5	3D-166	Tube & Safety Shear Assembly (540 rpm P. T. O.)
	3D-167	Tube & Safety Shear Assembly (1,000 rpm P. T. O.)
6	6C-748	Stover Nut
7	1C-508	Shear Bolt (3/8 - 16 NC x 2-1/2" Long)
	3D-160	Shear Bolt (5/16 - 18 NC x 2-1/2" Long)
8	5C-954	Stover Nut, 3/8-16 NC Thd.
	6C-748	Stover Nut, 5/16-18 NC Thd.
9	9C-419	Bushing - 3/8"
	5C-500	Bushing - 5/16"
10	3D-162	Shear Flange Assembly (W-5/16 Bushing)
11	9C-391	Bolt
12	8C-301	Set of 8 Balls
	2D-140	Nylon Bearing
13	8C-302	Retaining Ring (Used With 8 Balls)
	2D-141	Retaining Ring (Used With Nylon Bearing)
*	1D-854	Nylon Centralizer
14	9C-338	Rear Shield Complete (540 rpm P. T. O.)
	3D-677	Rear Shield Complete (1,000 rpm P. T. O.)
15	9C-337	Tube & Yoke Assembly (540 rpm P. T. O.)
	3D-676	Tube & Yoke Assembly (1,000 rpm P. T. O.)
16	5C-515	Universal Joint Repair Kit
17	9C-335	Shaft & Yoke Assembly (540 rpm P. T. O.)
	3D-674	Shaft & Yoke Assembly (1,000 rpm P. T. O.)
18	5C-939	"X" Washer (Not Used With 3D-757)
19	9C-394	Front Shield Complete (540 rpm P. T. O.)
	3D-675	Front Shield Complete (1,000 rpm P. T. O.)
20	6C-589	1-3/8 - 6B Spline Tractor Yoke (540 rpm P. T. O.)
	1D-791	1-3/8 - 21 Spline Tractor Yoke (1,000 rpm P. T. O.)
*	8C-528	Cap Screw
*	5D-747	Elastic Stop Nut) Used With 1D-791 Yoke
21	9C-325	Shaft & Joint Assembly (540 rpm P. T. O.)
	1D-947	Shaft & Joint Assembly (1,000 rpm P. T. O.)
22	5C-987	Lock Pin (Obsolete - Order 3D-757)
23	5C-257	Lock Pin Spring



3 JOINT P.T.O. ASSEMBLY
RSS-144 ROTARY SHREDDER

Sym.	Part No.	Description
1	3D-145	Drive Shaft Assembly (Slip Clutch)
2	3D-172	Drive Shaft Assembly (5/16" Shear Pins)
3	3D-229	Drive Shaft & Yoke Assembly
4	3D-230	Shield Complete
5	2D-140	Nylon Bearing
6	2D-141	Retaining Ring
7	1D-904	Yoke & Flange Assembly
8	5C-572	Shear Yoke (W-5/16" Bushings)
9	3D-162	Shear Flange Assembly (5/16" Bushings)
10	5C-515	Universal Joint Repair Kit
11	8C-315	Yoke
12	3D-231	Rear Shield Complete
13	3D-232	Tube & Yoke Assembly
14	3D-233	Shaft & Yoke Assembly
15	3D-234	Front Shield Complete
16	6C-589	1-3/8 - 6 Spline Tractor Yoke (540 RPM)
	1D-791	1-3/8 - 21 Spline Tractor Yoke (1,000 RPM)
*	8C-528	Cap Screw)
*	5D-747	Elastic Stop Nut) Used With 1D-791 Yoke
17	5C-257	Lock Pin Spring
18	5C-987	Lock Pin (Obsolete - Order 3D-757)
19	3D-105	Center Shield
20	3D-132	P.T.O. Bearing Bracket
21	3D-130	Support Assembly
22	7C-323	Bearing
23	7C-322	Bearing Sleeve
24	1D-854	Nylon Centralizer
25	3D-107	Tube & Joint Assembly
26	3D-108	Tractor Joint & Shaft Assembly (540 RPM)
	3D-147	Tractor Joint & Shaft Assembly (1,000 RPM)
27	5C-233	Set Screw
28	5C-234	Jam Nut
29	6D-748	Stover Nut 5/16 - 18 NC Thd.
30	5C-500	Bushing - 5/16"
31	3D-160	Shear Bolt (5/16 - 18 NC x 2-1/2" Long)
32	3D-680	Nylon Bearing
33	3D-681	Retaining Ring

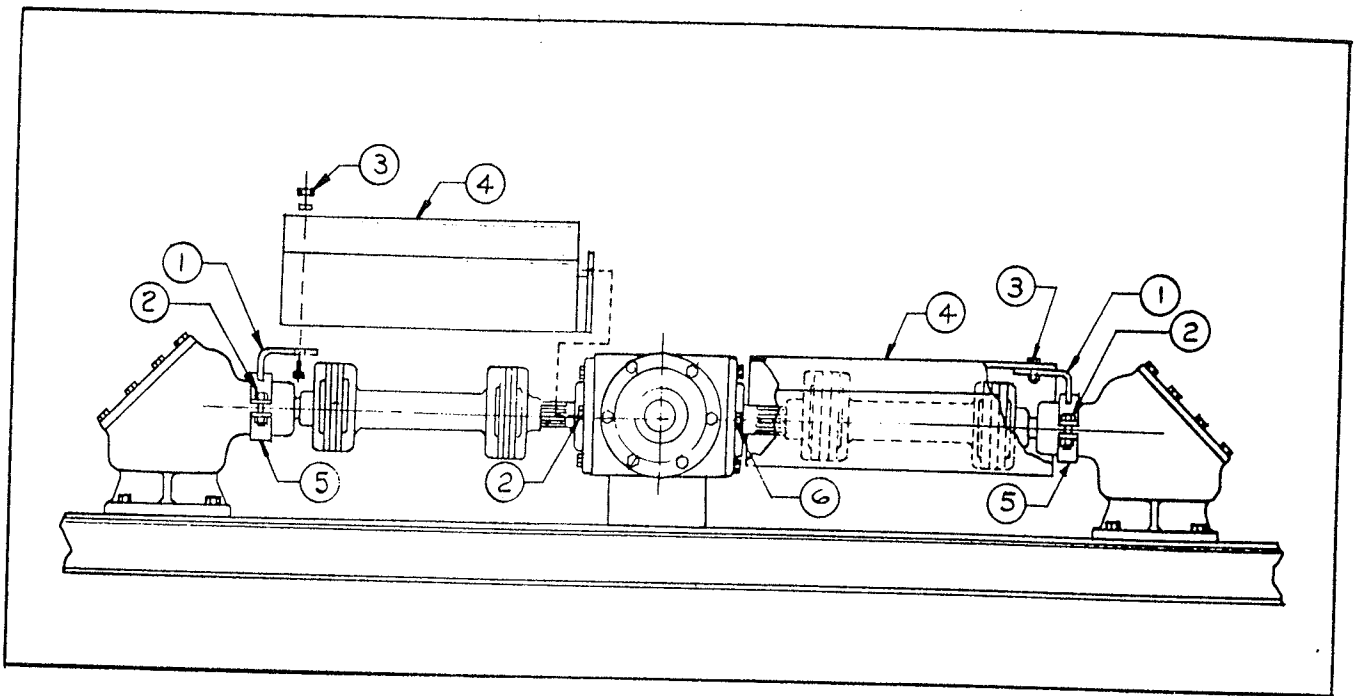


SLIP CLUTCH ASSEMBLY

9" CLUTCH

Sym.	Part No.	Part Name
	1D-909	Clutch Assembly (Complete)
1	1D-371	Hub
2	1D-395	Friction Disc 9" Outside Dia.
3	1D-544	Bushing
4	1D-374	Friction Plate
5	1D-372	Pressure Plate
6	1D-398	Belleville Washer
7	1C-670	Nut (Self Locking)
8	1D-888	Adapter Sleeve
9	1D-542	Snap Ring
10	1D-889	Retaining Washer
11	5C-516	Capscrew, L. H. Thread

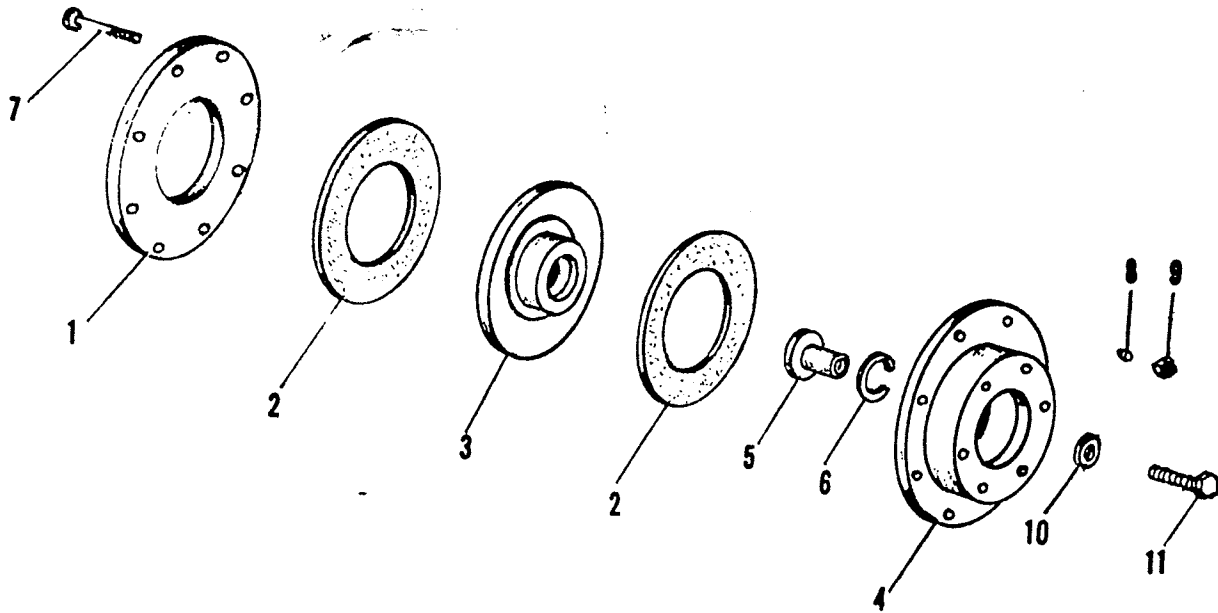
ASSEMBLY INSTRUCTIONS
FOR
ATTACHING FLEXIBLE COUPLER SHIELDS TO RSS-144 ROTARY SHREDDER



SYMBOL	PART NO.	NAME	QTY.
1	1D-995	Support Assembly	2
2	1C-232	3/8-16 N.C. x 1 $\frac{1}{4}$ " Long Cap Screw	8
3	4C-803	3/8-16 N.C. x 1" Long Cap Screw	2
4	2D-103	Shield Assembly	2
5	1D-994	Clamp	2
6	---	Present (Flange) Cap Screws	

To assemble the #4 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 (2) #6 Flange Cap Screws from each of the flanges as shown in the illustrations, and place the #4 Shields in position. Bolt them in place using two of the #2 (3/8-16 N.C. x 1 $\frac{1}{4}$ " 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.

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

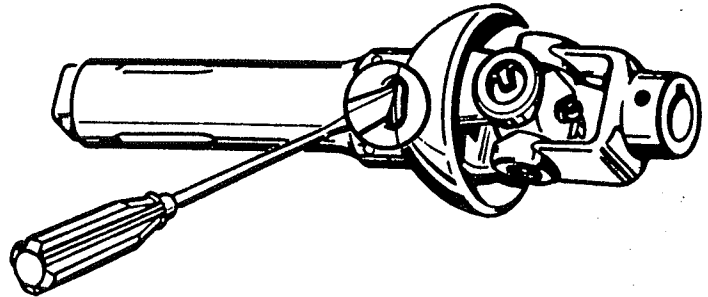


7-1/2" SLIP CLUTCH ASSEMBLY

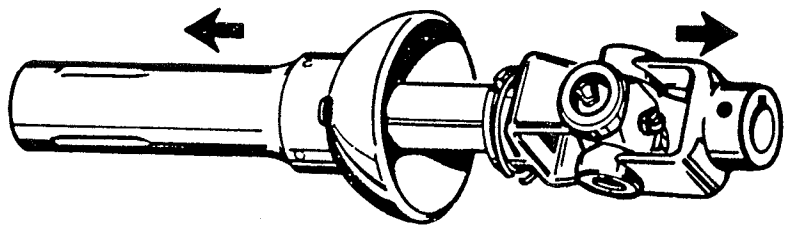
Sym.	Part No.	Part Name
	3D-808	Clutch Assembly (Complete)
1	3D-811	Pressure Plate
2	3D-457	Friction Disc-7-1/2" Outside Diameter
3	3D-810	Clutch Hub
4	3D-809	Friction Plate Assembly
5	1D-888	Adapter Sleeve
6	1D-542	Snap Ring
7	1C-508	Capscrew
8	1D-398	Belleville Washer
9	1C-670	Nut (Self locking)
10	1D-889	Retaining Washer
11	5C-516	Capscrew, L. H. Thread

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.

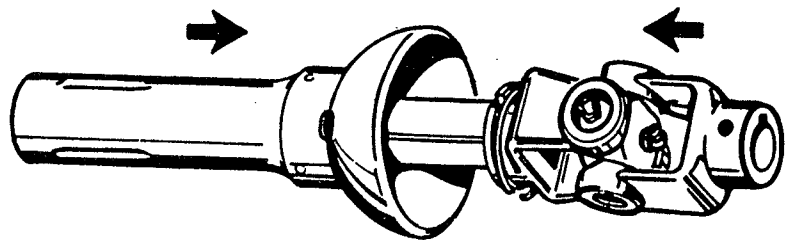


2. Slide guard off of joint.



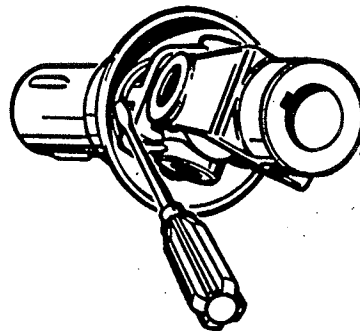
Instructions for Assembling Nylon Quick Detachable Free Wheeling Guard

1. Slide snap ring over joint hub.



2. Insert nylon bearing in groove of joint hub.

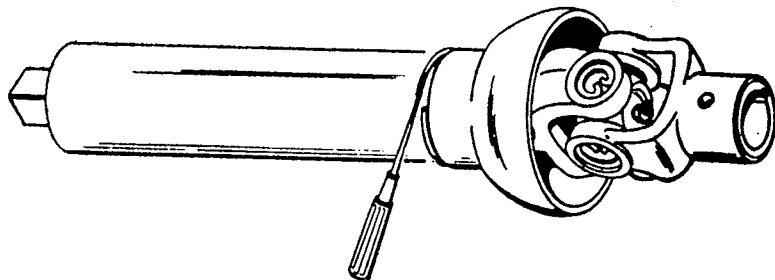
3. Slide joint assembly into guard. With screwdriver, push snap ring into groove.



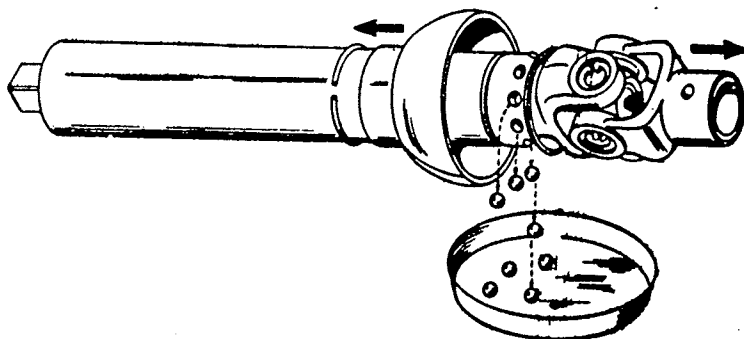
WARNING - DO NOT POUND BELL TO REMOVE JOINT ASSEMBLY.

INSTRUCTIONS FOR REMOVING
QUICK DETACHABLE FREE WHEELING GUARD

1. Use screw driver or sharp pointed tool to remove snap ring from groove at back of bell.

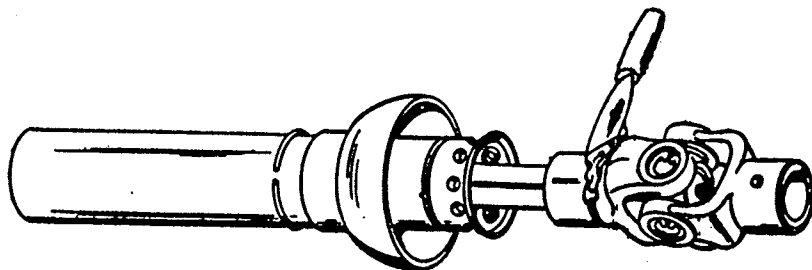


2. Hold assembly over container so that balls will not be lost and slide bell away from joint toward opposite end of tube. If balls do not drop out, slide tube away from joint, forcing balls from cage.

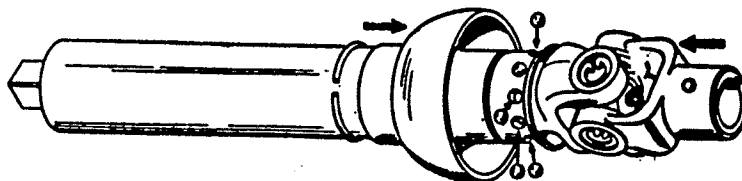


INSTRUCTIONS FOR ASSEMBLING
QUICK DETACHABLE FREE WHEELING GUARD

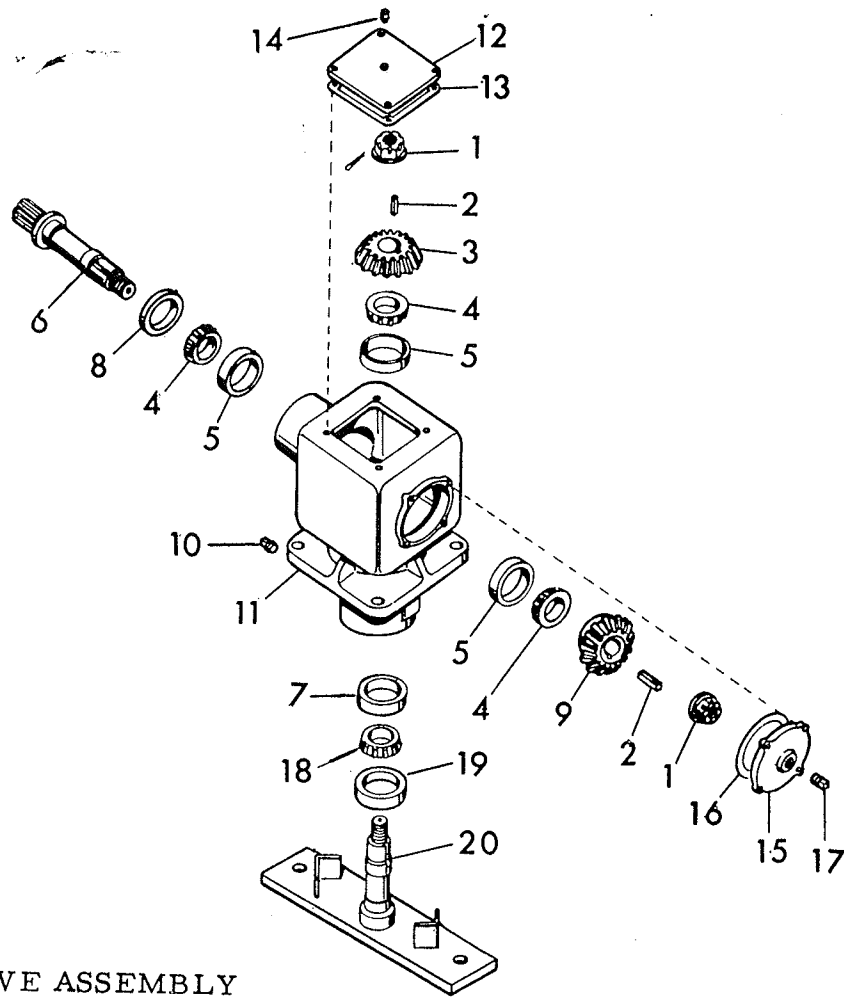
3. Fill raceway in yoke with grease.



4. Slide tube with bell and snap ring over raceway. Insert balls through holes into raceway where grease will hold them in place. Slide bell over balls. Slide snap ring into groove.



Grease joints, telescoping shafts and guard regularly. This Quick Detachable Free Wheeling Guard is the finest guard built. It is provided for your protection.



BLADE DRIVE ASSEMBLY
 (Used on Model Shredders)

Sym.	Part No.	Description	No. Used
	4D-890	Blade Drive Assembly	
1	1D-373	Flange Nut	2
2	7C-728	Key	4
3	3D-351	Gear - 18T	1
4	7C-763	Bearing Cone (#LM501349)	3
5	7C-762	Bearing Cup (#LM501310)	3
6	1D-795	Input Shaft	1
7	4C-832	Bearing Cup #362A	1
8	7C-764	Seal - 2.125 I. D. x 3.066 O. D. x 11/16	1
9	3D-350	Gear - 24T	1
10	4C-841	Pipe Plug Allen Head	1
11	4D-186	Gearbox Housing	1
12	2D-914	Cover	1
13	2D-916	Gasket - Cover	1
14	5C-573	Breather Valve	1
15	2D-915	Rear Cap	1
16	2D-917	Gasket - Rear Cap	1
17	4C-840	Pipe Plug Square Head	1
18	4C-850	Bearing Cone #368	1
19	4C-831	Seal - 2.375 I. D. x 3.505 O. D. x 45/64	1
20	3D-529	Output Spindle Assembly	1

