1996 MODEL

PARTS

HIGHLINE MFG. INC.

BALE PRO 6600

Assembly-Operator Parts Manual

MADE IN CANADA

Bale Pro 6600

Warranty

High-Line Mfg. Inc. warrants its products to the original owner for a period of two years from date of purchase, subject to the following provisions:

- 1st year Parts & Labour
- 2nd year Parts Only

- All matters related with the warranty of products must be handled through an authorized High-Line Manufacturing dealer.
- Any labour subject to warranty must be authorized by a High-Line Mfg. Inc. Representative, before work is started.
- Machines used for rental, custom work, industrial or construction use will be warranted for a period of 30 days from date of purchase. (Parts and Labour)
- Warranty will be void if any component of this machine is altered or modified in any way, unless written permission is given by High-Line Mfg. Inc.
- High-Line Mfg. Inc. will not assume any responsibility for whatever damage may occur to equipment to which this machine may be attached.
- Warranty terms and conditions are subject to provincial and state legislation.

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2. President's Message

Congratulations on your purchase of the Bale Pro 6600! Bale Pro, a new name in livestock feed handling equipment, is manufactured by Highline Manufacturing Inc. A company with a manufacturing team that has over 25 years experience in the farm implement industry.

This operator's manual has been prepared to provide information necessary for safe and efficient operation of your Bale Pro 6600. In it you will find safety procedures, maintenance routines and detailed parts diagrams.

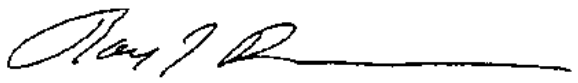
The Bale Pro 6600 was designed for controlled, more aggressive processing with less bunching. A little time and effort spent in proper maintenance will increase the performance and durability of your bale processor.

In order to maintain high standards, improvements are made from time to time. Highline Manufacturing Inc. reserves the right to make those changes and improvements when practical to do so without incurring any obligation to make such changes and improvements on machines sold previously.

Should the need arise, this manual will assist you in acquiring replacement parts. Should your dealer not have the parts you require in stock, the dealer will be happy to order them for you. Also if you should find that you require information not covered in this manual, feel free to consult us or your local dealer.

Highline Manufacturing Inc. thanks and congratulates you for selecting a Bale Pro 6600 as the machine of your choice.

Sincerely,



Raymond J. Bussière, President

P.O. Box 307, Vonda, Saskatchewan, S0K 4N0
Phone 1-800-665-2010 Fax (306) 258-2010

3. Safety Precautions

WORK SAFELY - FOLLOW THESE RULES

CAREFUL OPERATION IS THE BEST INSURANCE AGAINST AN ACCIDENT

- Keep children and adults away from discharge area while processing.
- Know the controls and what they do.
- Check machine to ensure nothing restricts moving or rotating parts.
- Ensure PTO is disengaged before starting tractor.
- Never leave tractor while PTO is engaged.
- Lower forks to ground after operation.
- Never attempt to manually remove debris while PTO is on. Disconnect PTO before unplugging or adjusting processor.
- Always keep safety PTO shields in place.
- Relieve pressure in hydraulic lines before disconnecting lines or performing other work on the hydraulic system.
- Never allow anyone to stand behind processor while loading bales.

4. Controls

Before operating the Bale Pro 6600, be sure to review all the instructions and familiarize yourself with the processor's features.

1. Discharge chute adjustment handle.

   For feeding place down and for spreading bedding position up.

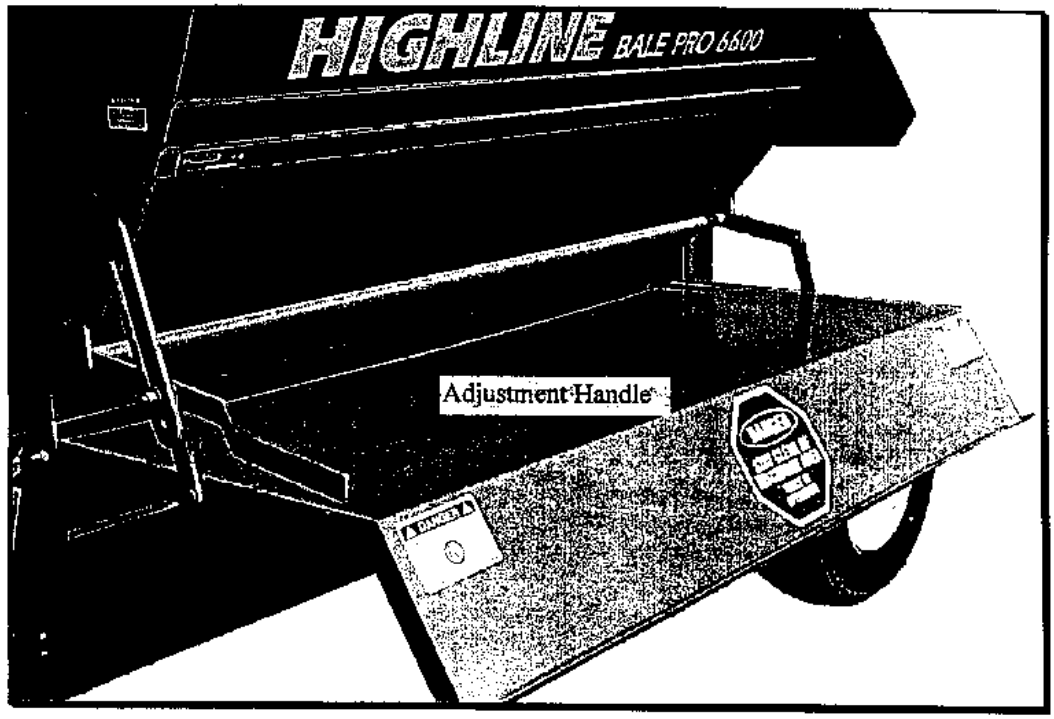


Figure 1 Discharge Chute

2. Feeder drum height adjustment.

   Using the feeder adjustment screws to change height of feeder drum changes the amount of bite taken from the bale. To avoid unnecessary strain on the motor take care to keep the drum level.

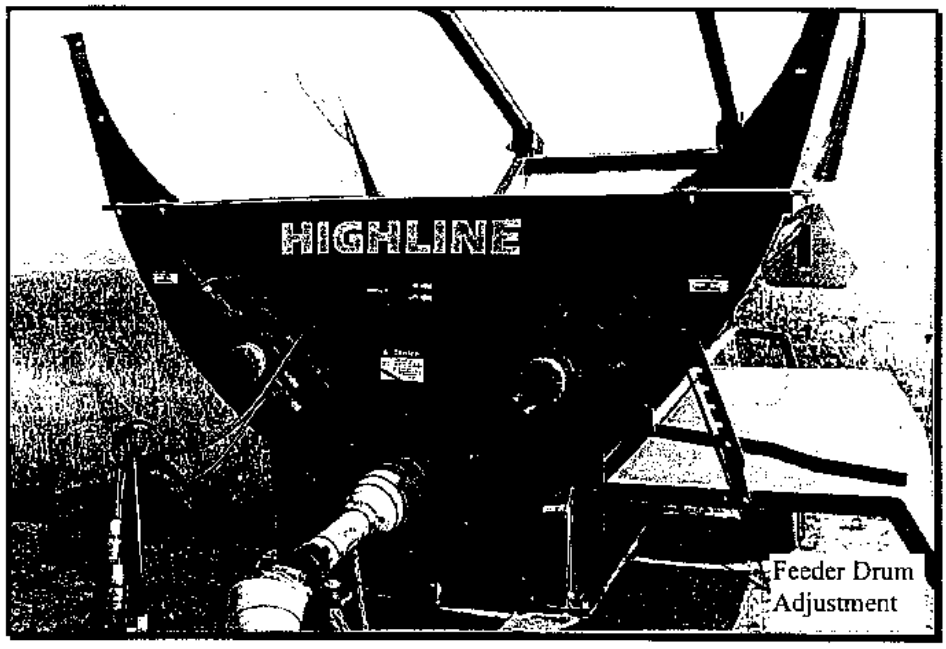


Figure 2 Feeder Drum

3. Flail drum rod height adjustment.

   Insert spacers provided to raise height of flail bar. This reduces the amount of bite taken from the bale.

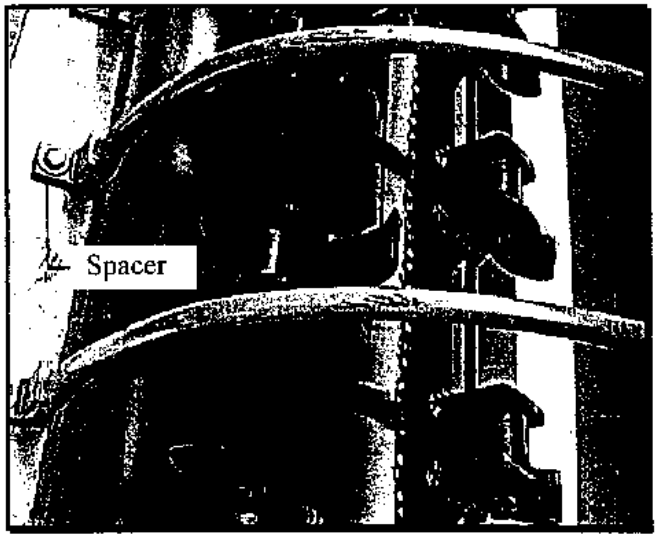


Figure 3 Flail Drum

Note:

Twine must be removed from the flail drum **at least** every 50 bales.

4. Flail drum activated through PTO control in your tractor.
5. Feeder drum and fork lift operated through the hydraulic control in your tractor.

5. Maintenance

Please follow these maintenance steps, to ensure trouble free operation of your Bale Pro 6600.

PTO Installation

Ensure that the U-joint cross on the front PTO shaft (A) is in line with the U-joint cross on the secondary PTO shaft (B). See Figure 4.

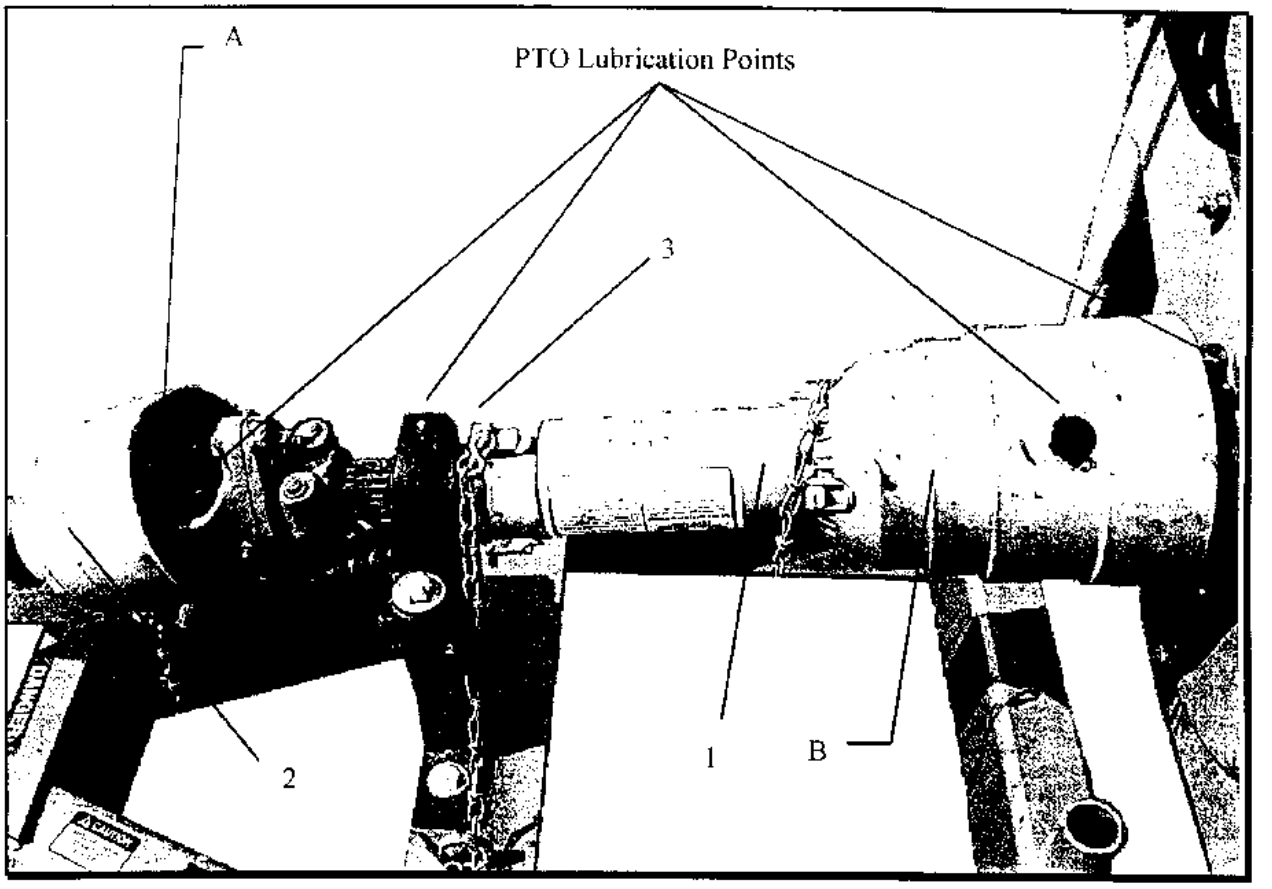
Lubrication

Maintaining proper lubrication of the Bale Pro 6600 is crucial for trouble free operation. Figures 4, 5 and 6 show 12 points which require regular greasing. Below is a list of the lubrication points and the frequency of greasing of these points.

1. PTO Shaft-front
2. PTO Shaft-rear
   Grease every ten bales.
3. PTO Extension Shaft Bearing
   Grease every fifty bales
4. Feeder Drum bearing-right
5. Feeder Drum Bearing-left
   Grease every fifty bales.
6. Flail drum bearing
   Grease every fifty bales.
7. Fork Pivot shaft-left
8. Fork Pivot shaft-right
   Grease every one hundred bales.
9. Tire Hub-left
10. Tire Hub-right
    Greasing dependent upon travel
11. Fork-left
12. Fork-right
    Grease every one hundred bales.

Note: Use low-temperature grease when the temperature reaches below 0 degrees Celsius (32 degrees Fahrenheit)

Figure 4 PTO Installation & Lubrication



IMPORTANT!

ENSURE THAT THE U-JOINT CROSS ON THE FRONT P.T.O. SHAFT IS IN LINE WITH THE U-JOINT CROSS ON THE SECONDARY P.T.O. SHAFT.

PLEASE REFER TO THE MAINTENANCE SECTION OF THE OPERATORS MANUAL.

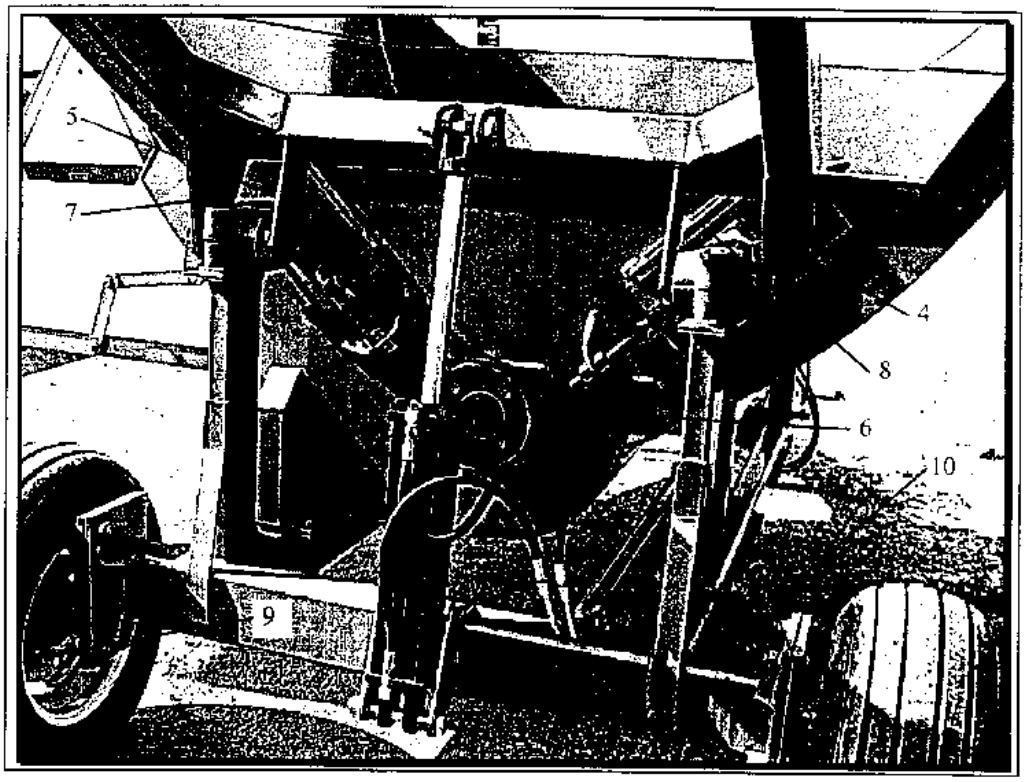


Figure 5 Assorted Lubrication Points

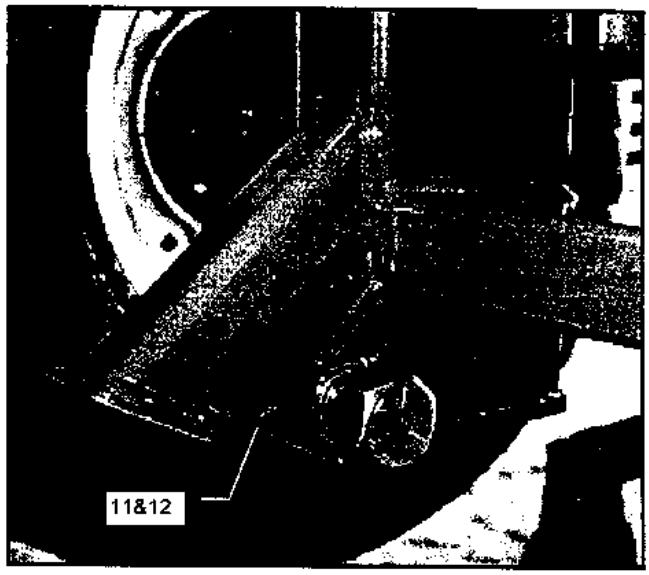


Figure 6 Fork Lubrication Points

General

Flail bolts should be tightened after the first ten bales then rechecked after approximately 200 bales. Figure 7. If twine is not cut from the bale before processing, it will wrap around the flail drum. Periodic removal of this twine is required to allow free movement of the flail. If a flail requires replacing, also replace the opposite flail to keep the drum in balance.

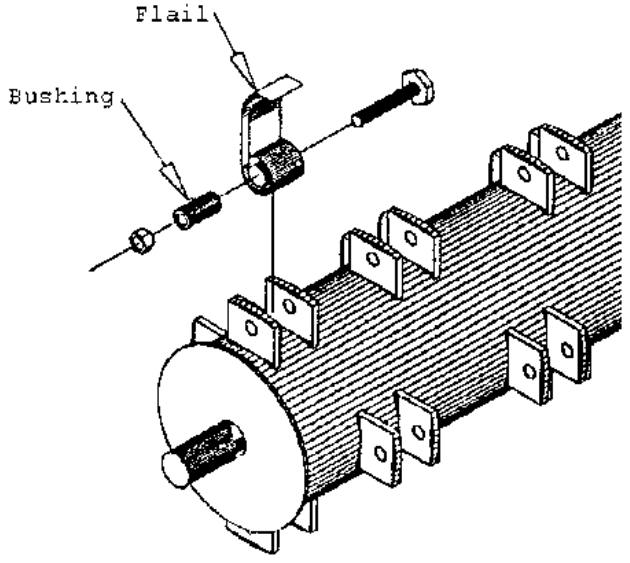


Figure 7. Flail Drum

Note:

Check the space between the frame and the hydraulic cylinder daily to ensure that it remains unclogged. (Figure 8)

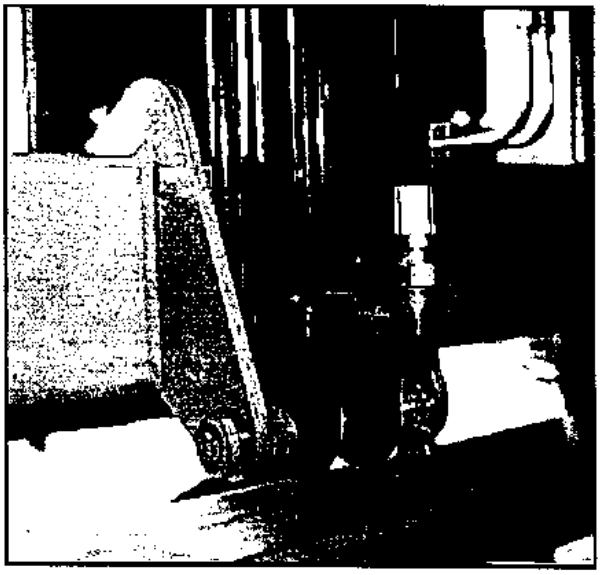


Figure 8 Hydraulic cylinder and lugs

6. Operating Instructions

Successful operation of the Bale Pro 6600 is dependent upon the quality of the bale, height of the feeder drum and flail guard and also on the operator. The following steps ensure proper operation.

1. Before loading bale, engage PTO drive to check the flail drum if it is operating adequately. Start feed rollers using the hydraulics and check if the feed rollers turn clockwise and counter clockwise. If your tractor has hydraulic flow control, alter flow so the feed rollers rotate at an adequate speed for the conditions of your bales.

2. To load, lower forks **completely** and back up to bale **slowly**. Raise forks until bale falls into the processor. Another bale may be loaded onto the forks while a bale is in the processor. If a bale is loaded on the forks while one is shredded, raise the forks approximately to a 45° angle to reduce pressure on the hydraulic cylinder lift. Orientation of the bale during loading causes the hay/straw to discharge from the processor differently. If the bale is shredded in the same direction as it was baled, the hay/straw will generally come off in layers. If the bale is shredded in the opposite way, feeding may be uneven.

3. Before engaging flail drum, check that the forks are not interfering with the rotating bale and position the discharge deflector for your application. For spreading bedding the deflector is placed up and for feeding in rows the deflector is placed down.

4. When ready, rotate feed rollers in one direction before starting the flail drum. Once the PTO is engaged, increase engine speed until the PTO rotates at 1100 rpm. 1100 rpm is a recommended flail drum operating speed however this varies depending upon the bale quality, hay/straw type and weather. In most cases the feed drums need to be turning periodically to prevent the flail drum from overloading.

5. If the feed rate is too fast, three items may be changed.

   a. Decrease tractor RPM, however make sure the flails remain extended so they don't "back slap" on the drum. Severe damage may occur if the flails repeatedly hit the drum.

   b. Raise feeder drum using adjusting bolts on the front and rear side of the processor (Figure 9 below). This decreases the amount the flail penetrates the bale.

Figure 9

   c. Raise flail guard bars using spacers (Figure 10). This raises the bale decreasing the amount the flail penetrates the bale.

In all three cases, do not allow the flail to "back slap" on the drum.

6. If the feed rate is too slow, the same three items may be altered however "back slap" may occur if the feed rate is too high.

7. If the bale quits turning or straw bunches up one side, reverse feed drums in opposite direction and periodically alternate direction. If the bale is loaded on end rather than on its side, it is better to keep reversing the feed drums back and forth to prevent spillage.

8. Before stopping PTO, idle tractor down to reduce flail "black slap".

WARNING: Warranty will be void if any component of this machine is altered or modified in any way, unless written permission is given by Highline Mfg. Inc.

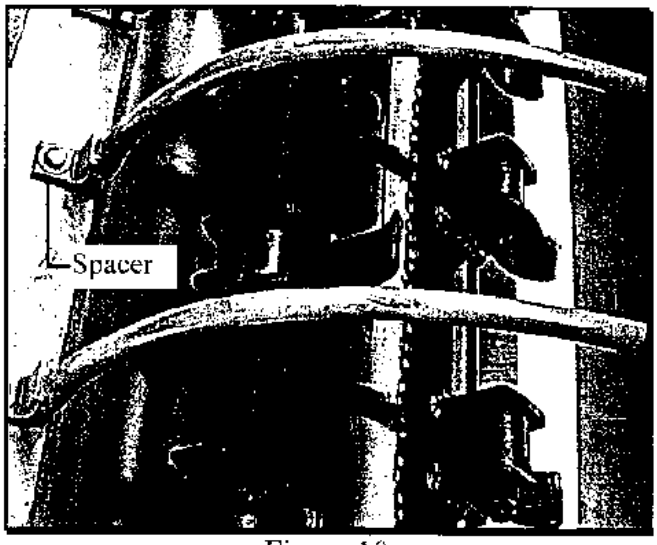
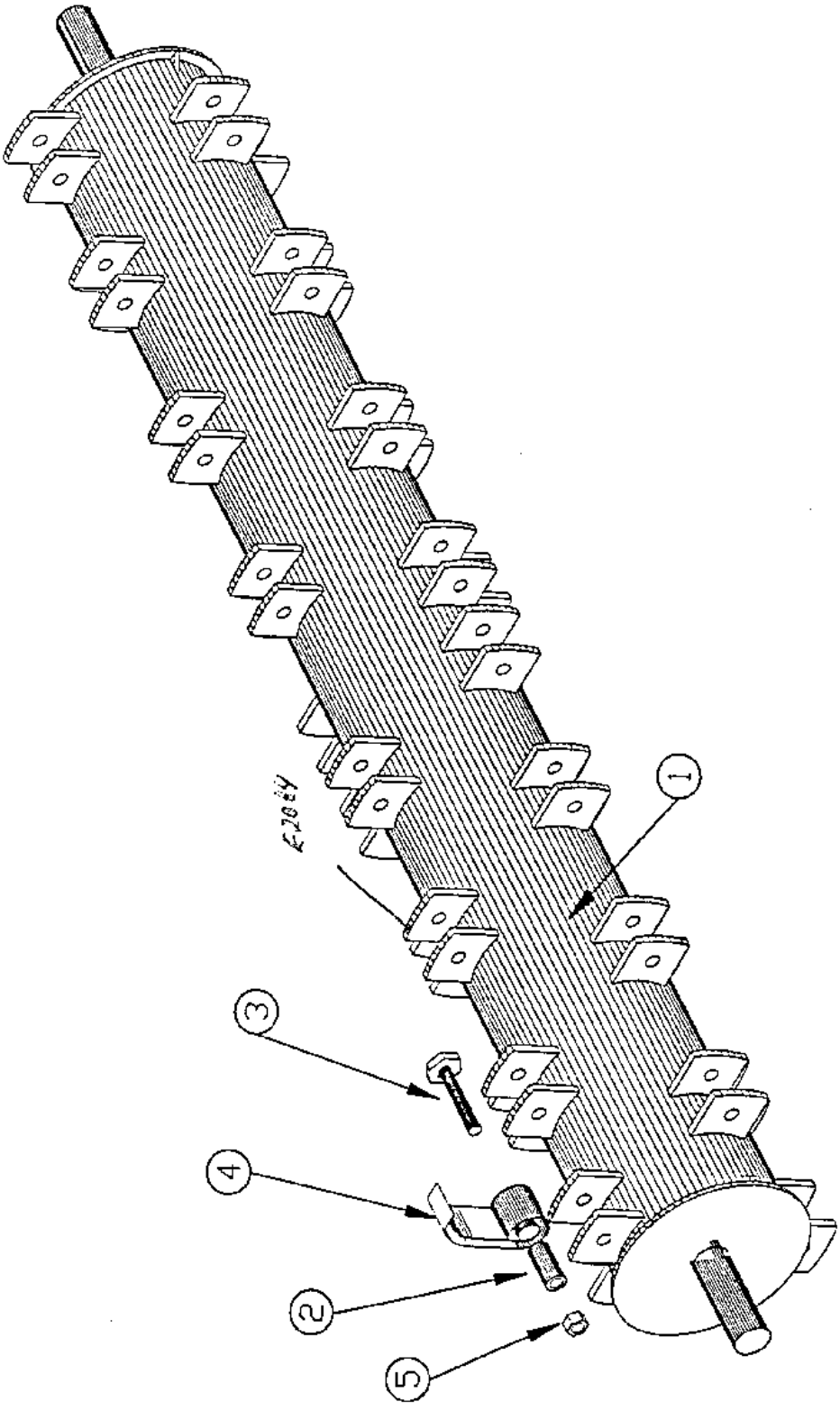


Figure 10

Operating Notes

7. Assembly & Installations

Flail Assembly



Item No.	Part No.	Description
1	45165	Flail Drum 6600 Model
2	45072	Flail Bushing
3	45099	5/8" x 3-3/4" UNF GR 8 Stud
4	45075	Flail
5	SLNF10	5/8" UNF Locknut
6	45146	Flail Drum Complete

NOTE: If a flail requires replacing, also replace the opposite flail to keep the drum in balance.

Feed Roller P/N 45186 96" is changeable with 91" Feed Roller P/N 45213

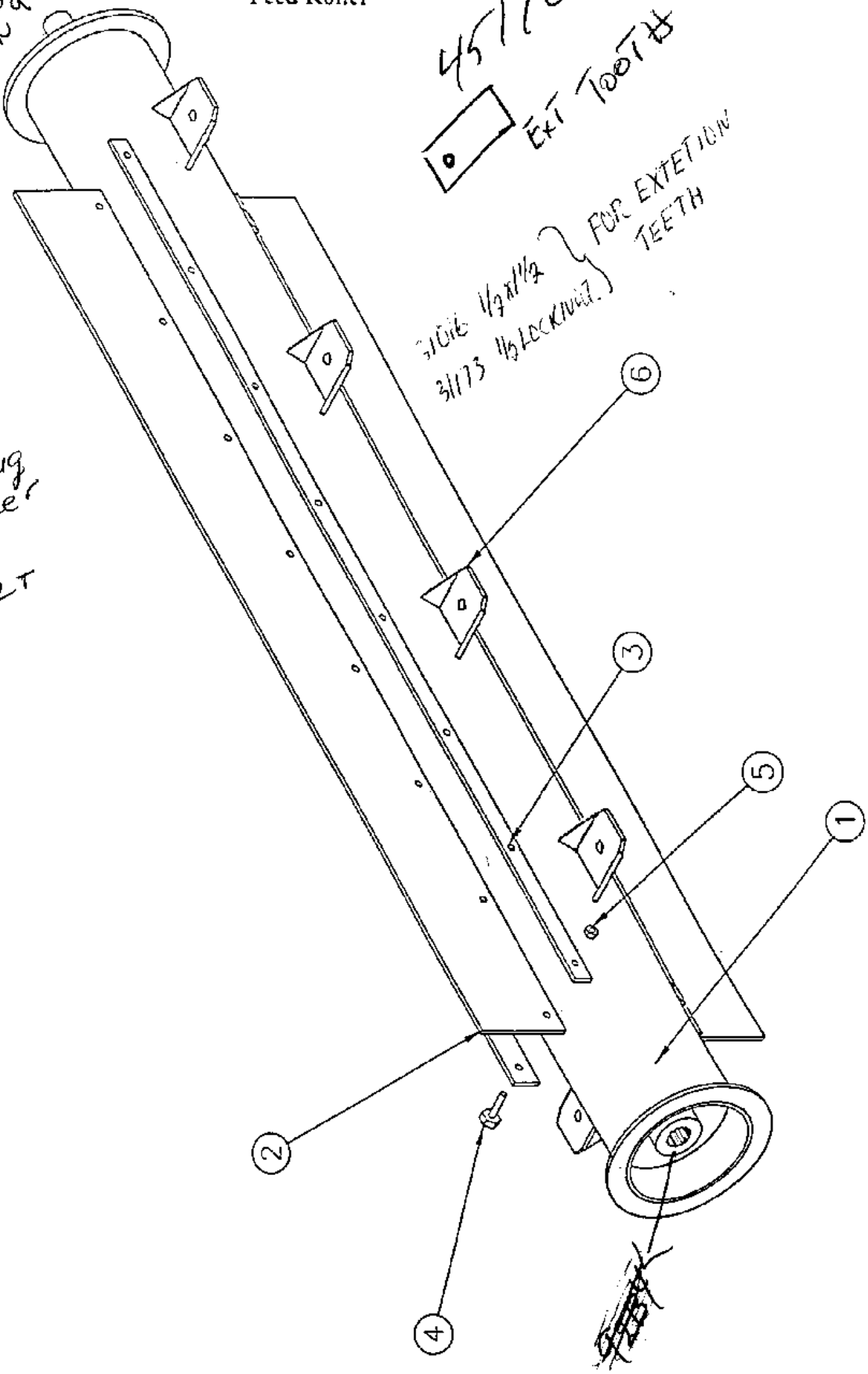
Feed Roller

45190 Ext Tooth

STUD 1/2 x 1 1/2 3/173 1/2 LOCKNUT } FOR EXTETION TEETH

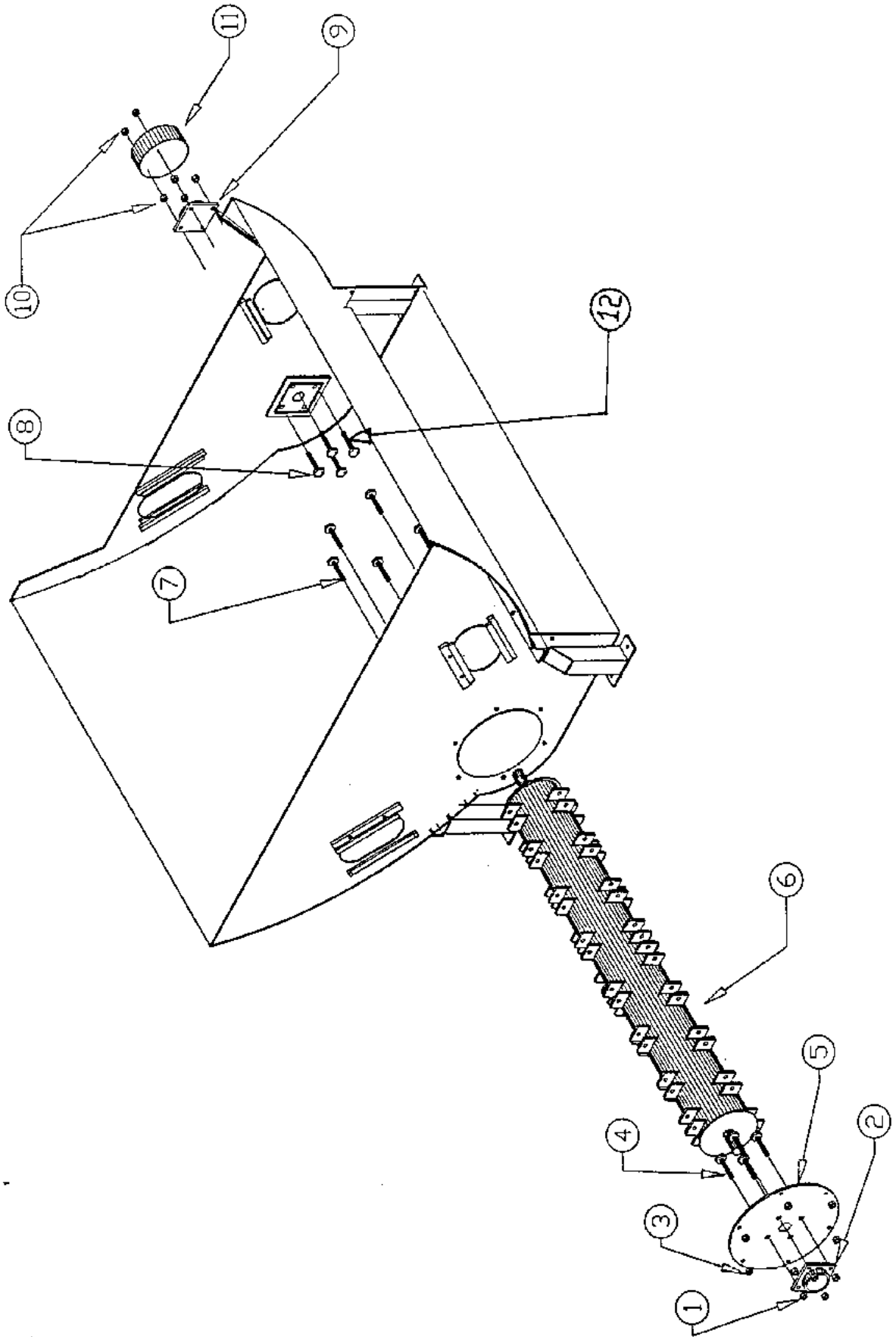
8 X Feed Roller Lug per Roller

2 Rollers RT & LT



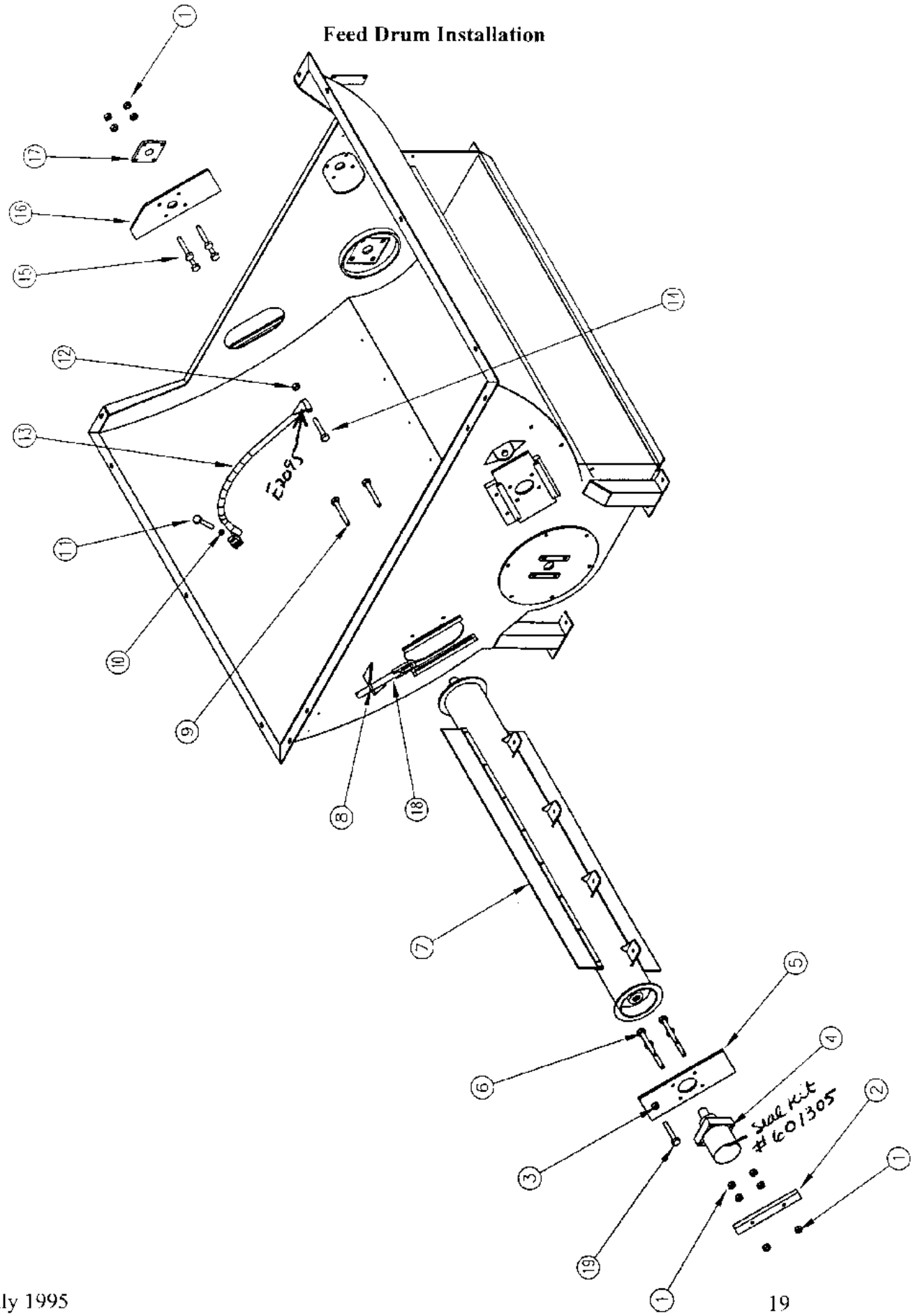
Item No.	Part No.	Description
1	45186	Feed Drum Complete
2	45155	3/8"x5"X55" Belting
3	45156	1/4"x1"x55" Back Plate
4	B5C0524P	5/16"x1 1/2" Bolt UNC Gr. 5
5	LNC05	5/16" UNC Lock Nut
6	45154	Feed Roller Lug

Flail Drum Installation



Item No.	Part No.	Description
1	SLNC10	5/8" Stover Locknut
2	92091	1-3/4" Flange Bearing
3	LNC08	1/2" Locknut
4	C5C1040	5/8"x2-1/2" UNC Carriage Bolt
5	45089	Flail Drum Mounting Plate
6	45146	Flail Drum Complete
7	B5C0824P	1/2"x1-1/2" UNC GR 5 Bolt
8	C5C1048	5/8"x3" UNC Carriage Bolt
9	92091	1-3/4" Flange Bearing
10	SLNC10	5/8" Stover Locknut
11	45135	Rear Bearing Guard
12	C5C1040	5/8"x2 1/2" UNC Carriage Bolt

Feed Drum Installation



Item No.	Part No.	Description
1	LNC08	1/2" Lock Nut
2	45158	Motor Slide Plate Retainer
3	NC16P	1" Nut
4	92045	Hydraulic Motor
5	45124	Feed Roller Motor Mounts
6	B5C0840P	1/2"x2-1/2" UNC GR 5 Bolt
7	45186	Feed Roller
8	NRAHCME16	1" ACME Right Hand Nut
9	B5C0828P	1/2"x1-3/4" UNC GR 5 Bolt
10	FW08	1/2" Flatwasher
11	B5C0856P	1/2"x3-1/2" UNC GR 5 Bolt
12	LNC09	9/16" Locknut
13	45159	Flail Guard Rod
14	B5C0964P	9/16"x4" UNC GR 5 Bolt
15	B5C0828P	1/2"x1-3/4" UNC GR 5 Bolt
16	45123	Feed Roller Bearing Mount
17	92094	1-3/8" Flange Bearing
18	45127	Feed Drum Adjusting Rod
19	B5C1624P	1"x1-1/2" UNC GR 5 Bolt

31159

20 701028 OR 30274 HUB SPLINED

21 601305 OR 32647 SEAL KIT

22 601311 OR 32653 SPLINED SHAFT

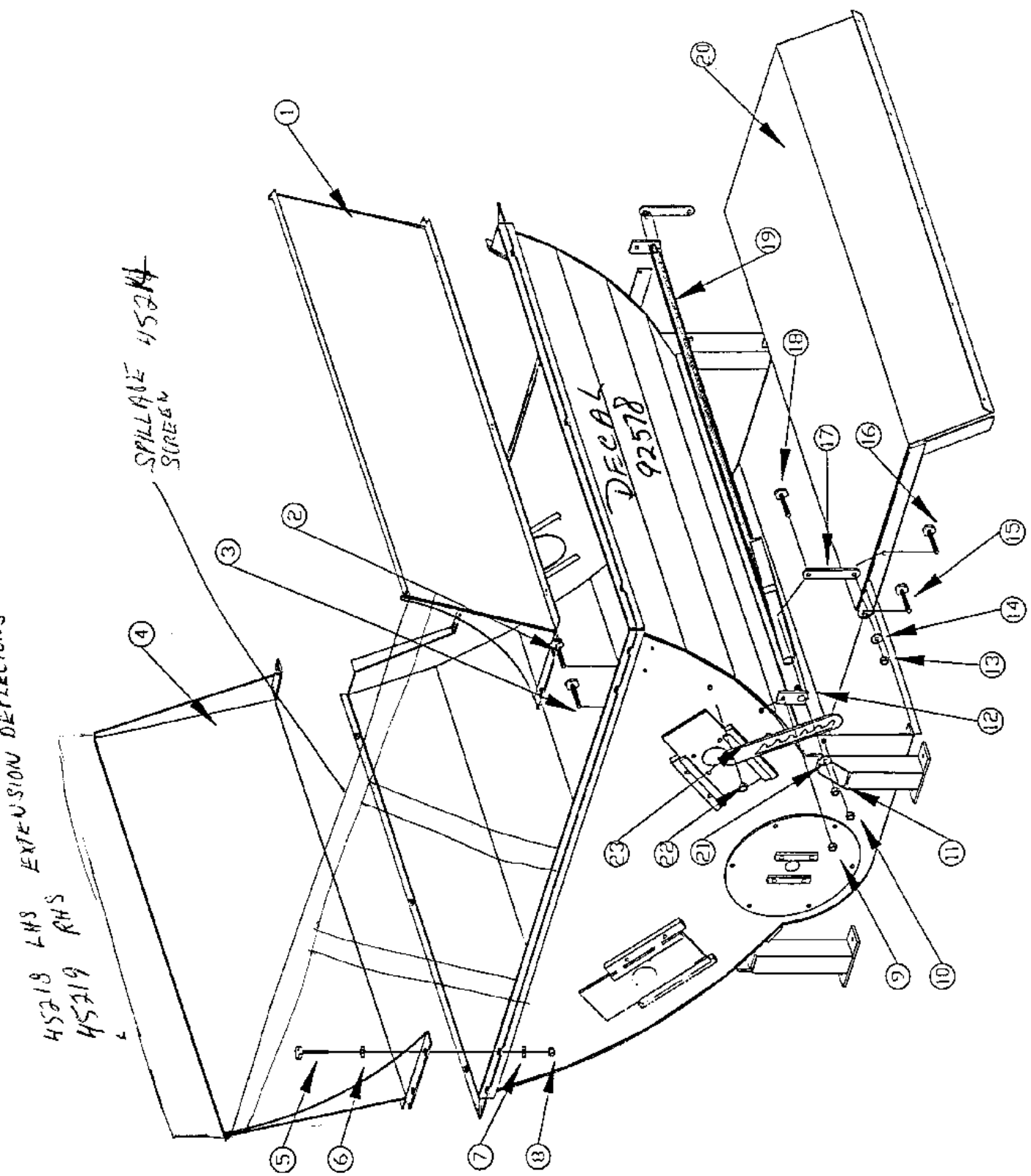
23 601314 OR 32656 SEAL

24 601309 OR 32651 THRUST BEARING.

25 601308 OR 32670 TORRINGTON BEARING.

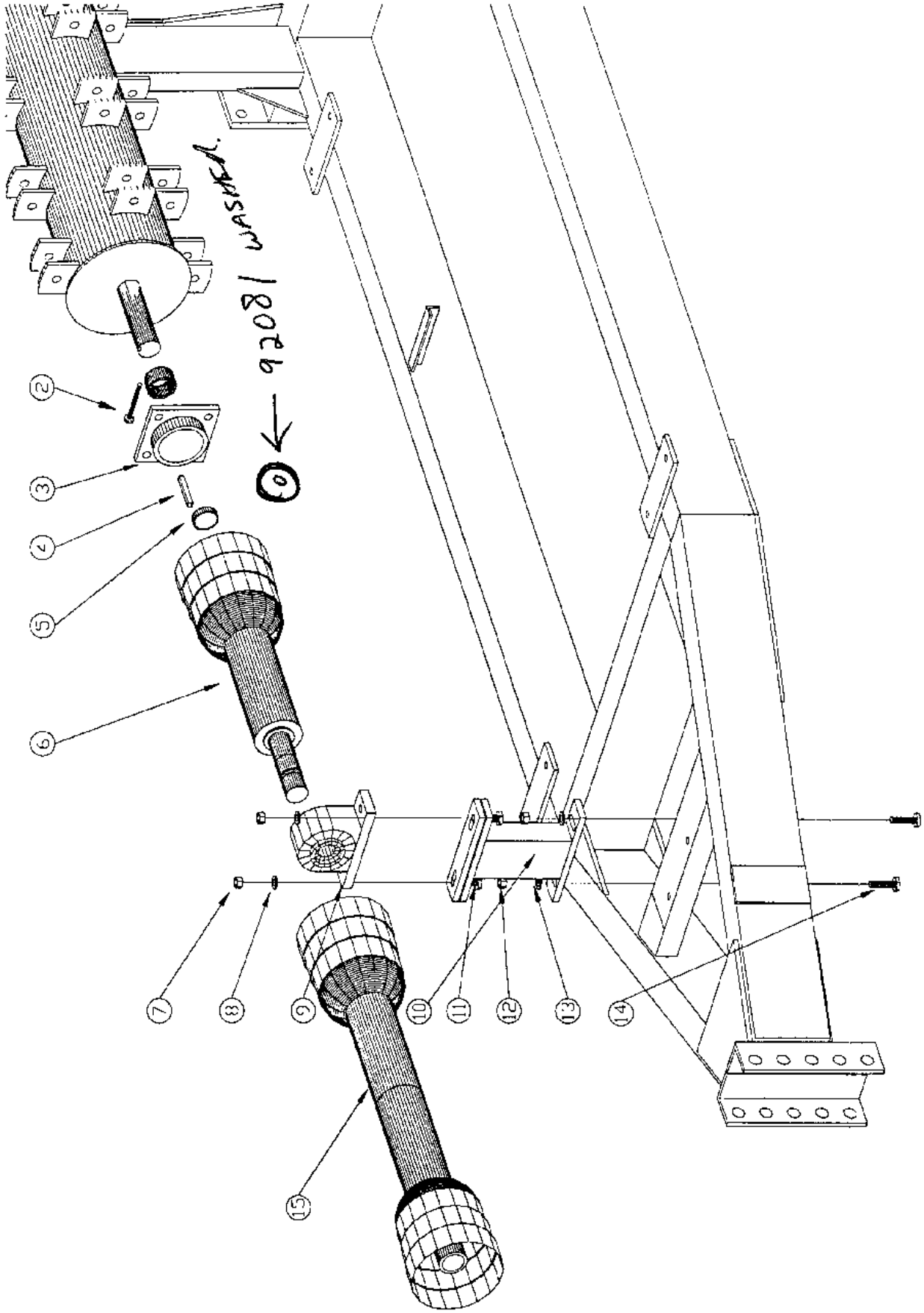
26 601307 OR 32649 BEARING.

Shield Installation



Item No.	Part No.	Description
1	45065	Left Bale Deflector
2	C5C0824P	1/2"x1-1/2" UNC GR 5 Carriage Bolt
3	C5C0824P	1/2"x1-1/2" UNC GR 5 Carriage Bolt
4	45083	Right Bale Deflector
5	B5C0824P	1/2"x1-1/2" UNC GR 5 Bolt
6	FW08P	1/2" Flat Washer
7	FW08P	1/2" Flat Washer
8	LNC08	1/2" UNC Lock Nut
9	LNC08	1/2" UNC Lock Nut
10	LNC08	1/2" UNC Lock Nut
11	LNC08	1/2" UNC Lock Nut
12	45162	Deflector Arm Pivot
13	LNC08	1/2" UNC Lock Nut
14	FW08P	1/2" Flat Washer
15	C5C0824P	1/2"x1-1/2" UNC GR 5 Carriage Bolt
16	C5C0832P	1/2"x2 UNC GR 5 Bolt Carriage Bolt
17	45164	Deflector Link
18	C5C0836P	1/2"x2-1/4" UNC GR 5 Carriage Bolt
19	45160	Deflector Shield Lever New # 45196
20	45163	Discharge Deflector pivots # 45197
21	FW08P	1/2" Flat Washer
22	LNC08	1/2" UNC Lock Nut
23	45119	Deflector Adjusting Bar

PTO Installation



Item No.	Part No.	Description
1		Omitted
2	801732	5/16" x 3" Spring Pin $2794
3	92091	1-3/4" Flange Bearing
4	45170/E2976	3/8"x3/8"x2" Key
5	E2973	2-1/4OD x .240" x 1/4" Seamless
6	901154	PTO Shaft Extension - complete back 32899
7	LNC09	9/16" UNC Lock Nut
8	FW09	9/16" Flat Washer
9	92031	1-3/4" Pillow Bearing
10	45149	PTO Stub Stand
11	B5C0948P	9/16"x2-1/2" UNC Gr. 5 Bolt
12	LNC09	9/16" UNC Lock Nut
13	FW09	9/16" Flat Washer
14	B5C0932P	9/16"x2" UNC Gr. 5 Bolt
15	901161	PTO Shaft complete front 32906

TRACTOR END

1 - 32908

1 - 32909

1 - 901118 OR 32863

1 - 901152 OR 32897

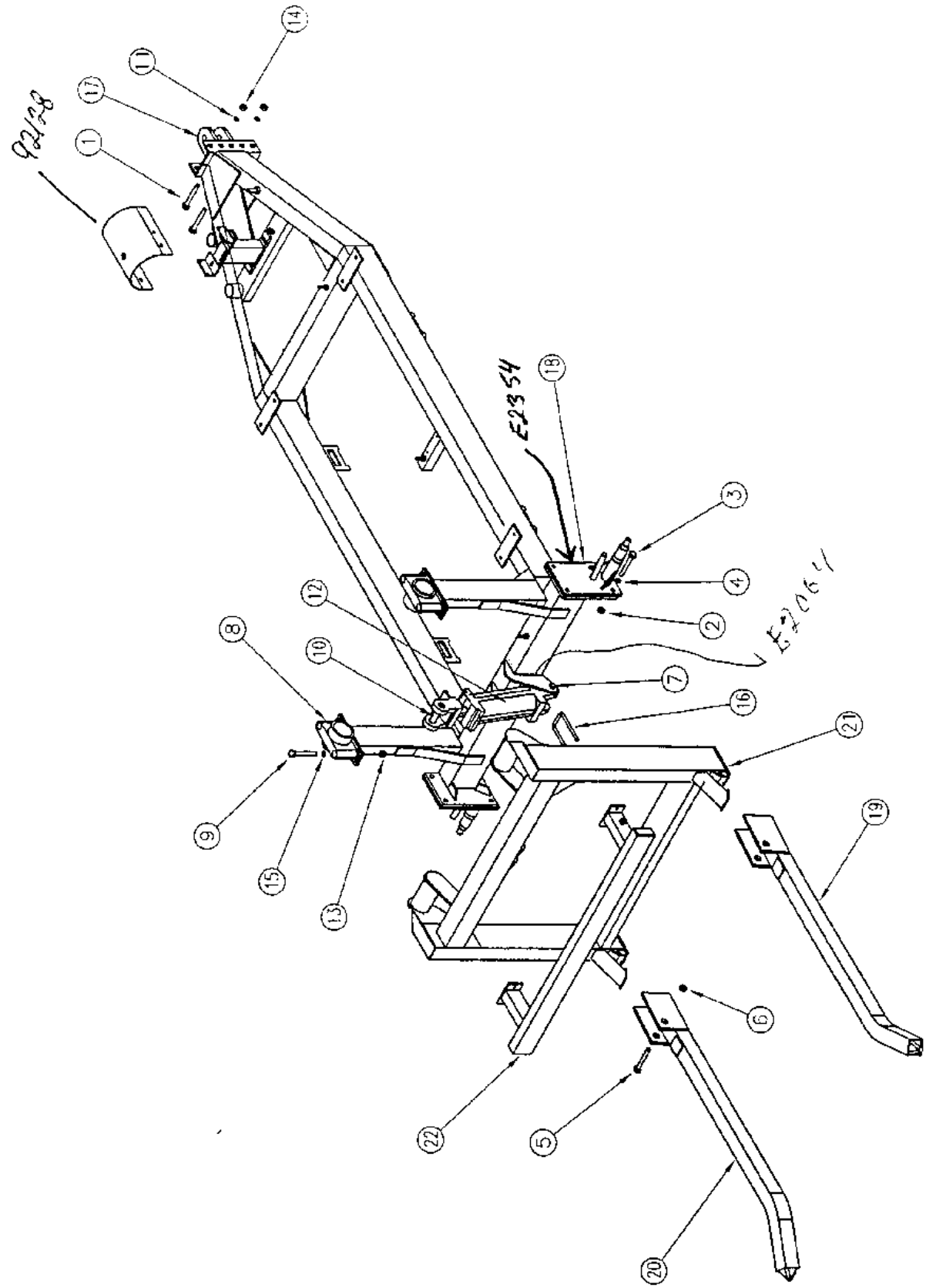
1 - 901121 OR 32866

1 - 901119 OR 32864

1 - 901136 OR 32881

3 - 901137 OR 32882.

Cart Assembly



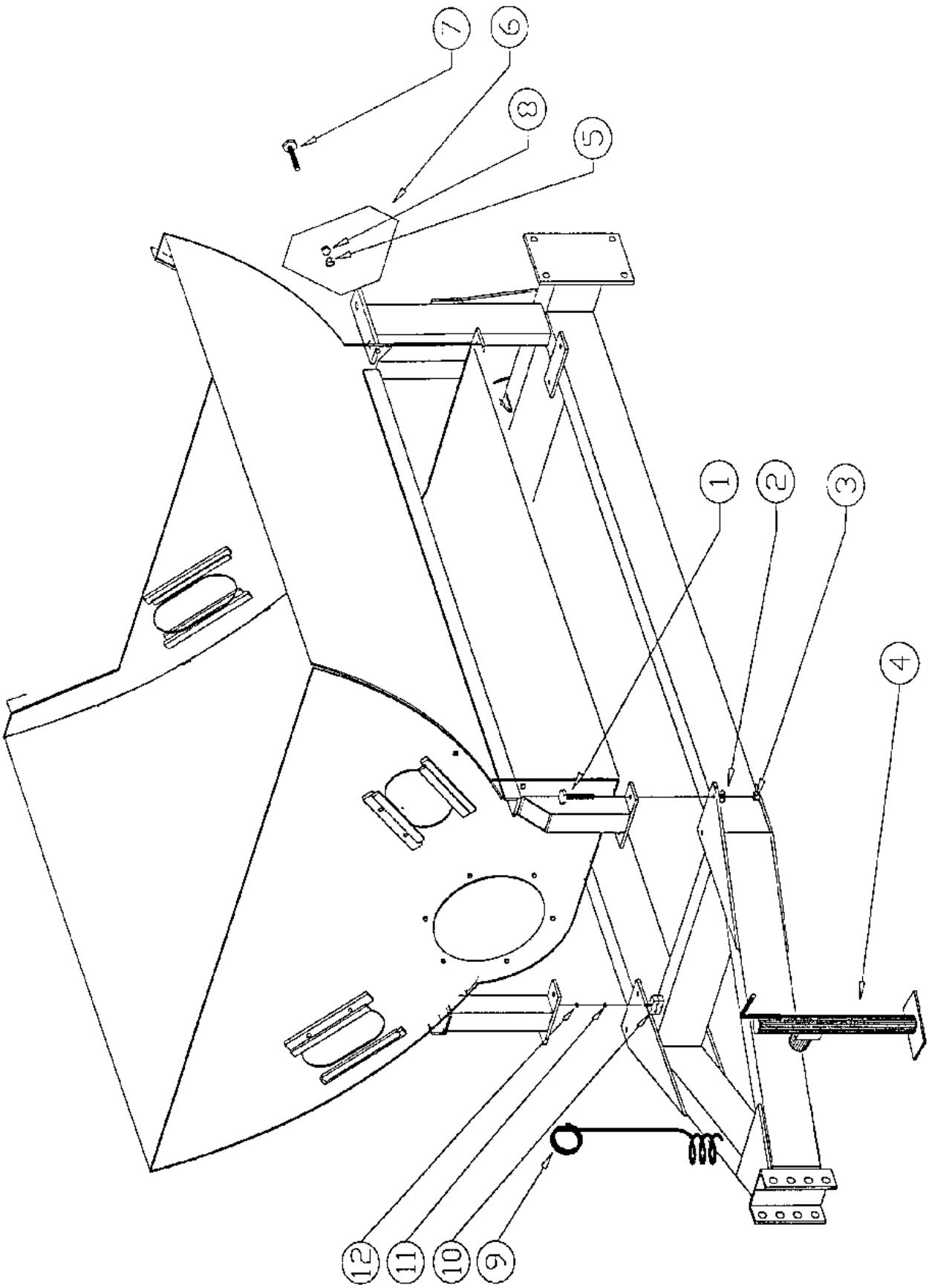
Item No.	Part No.	Description
1	B5C16120P	1"x7-1/2" UNC GR 5 Bolt
2	NC12P	3/4" UNC Nut
3	B5C1240P	3/4"x2-1/2" UNC GR 5 Bolt
4	LW12P	3/4" Lockwasher
5	B5C2096P	1-1/4" x 6" UNC GR 5 Bolt
6	LNC20	1-1/4 " UNC Locknut
7	45185	Bottom Cylinder Pin
8	500201	Pipe Clamp
9	B5C1080P	5/8"x5" UNC GR 5 Bolt
10	45184	Top Cylinder Pin
11	LW16P	1" Lockwaher
12	90103	3-1/2" x 16" Hydraulic Cylinder
13	LNC10	5/8" UNC Lock Nut
14	NC16P	1" UNC Nut
15	FW10P	5/8" Flatwasher
16	UB0848112	3"x7" Clamp
17	45060	Double Hitch Tongue
18	45081	Axle Plate and Spindle
19	45143	Right Fork
20	45142	Left Fork
21	45079	Fork Mechanism
22	45087	Bumper

TOP 3023C BOTTOM 3025D CROSS # 32

- CW Hub. — 144.2
- without hub charg

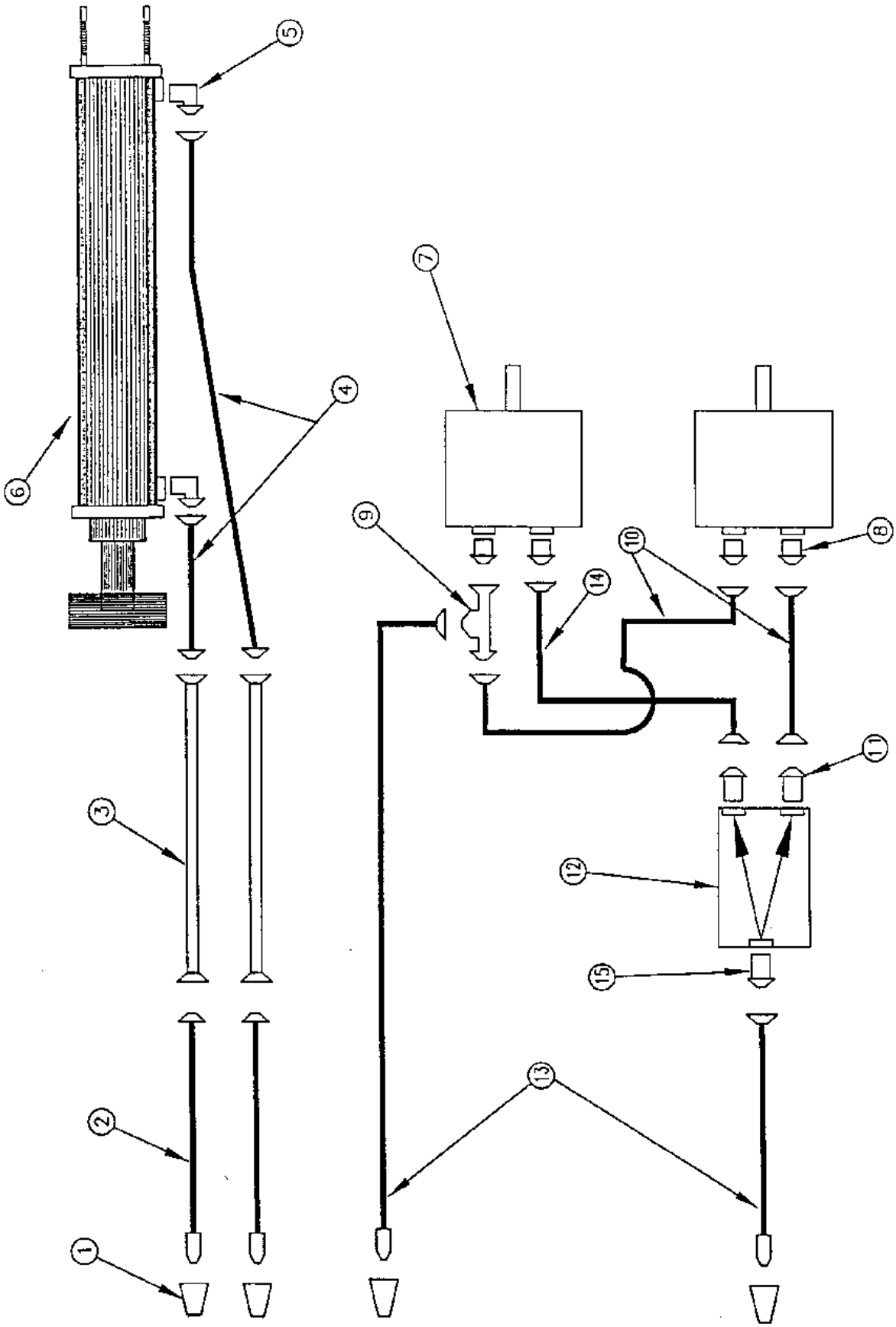
144-90-21.4

Tub on Cart Installation



Item No.	Part No.	Description
1	B5C0824P	1/2"x1-1/2" UNC GR 5 Bolt
2	FW08P	1/2" Flat Washer
3	LNC08P	1/2" UNC Locknut
4	92095	5000 lb. x 15" Hitch Jack
5	B5C0412P	1/4" Locknut
6	92028	Slow Moving Sign
7	B5C0412P	1/4"x3/4" UNC GR 5 Bolt
8	FW04	1/4" Flat Washer
9	500001	Hose Holder 3206
10	801702	Frame Hydraulic Line Clamps
11	LNC05	5/16" UNC Locknut
12	FW05	5/16" Flat Washer

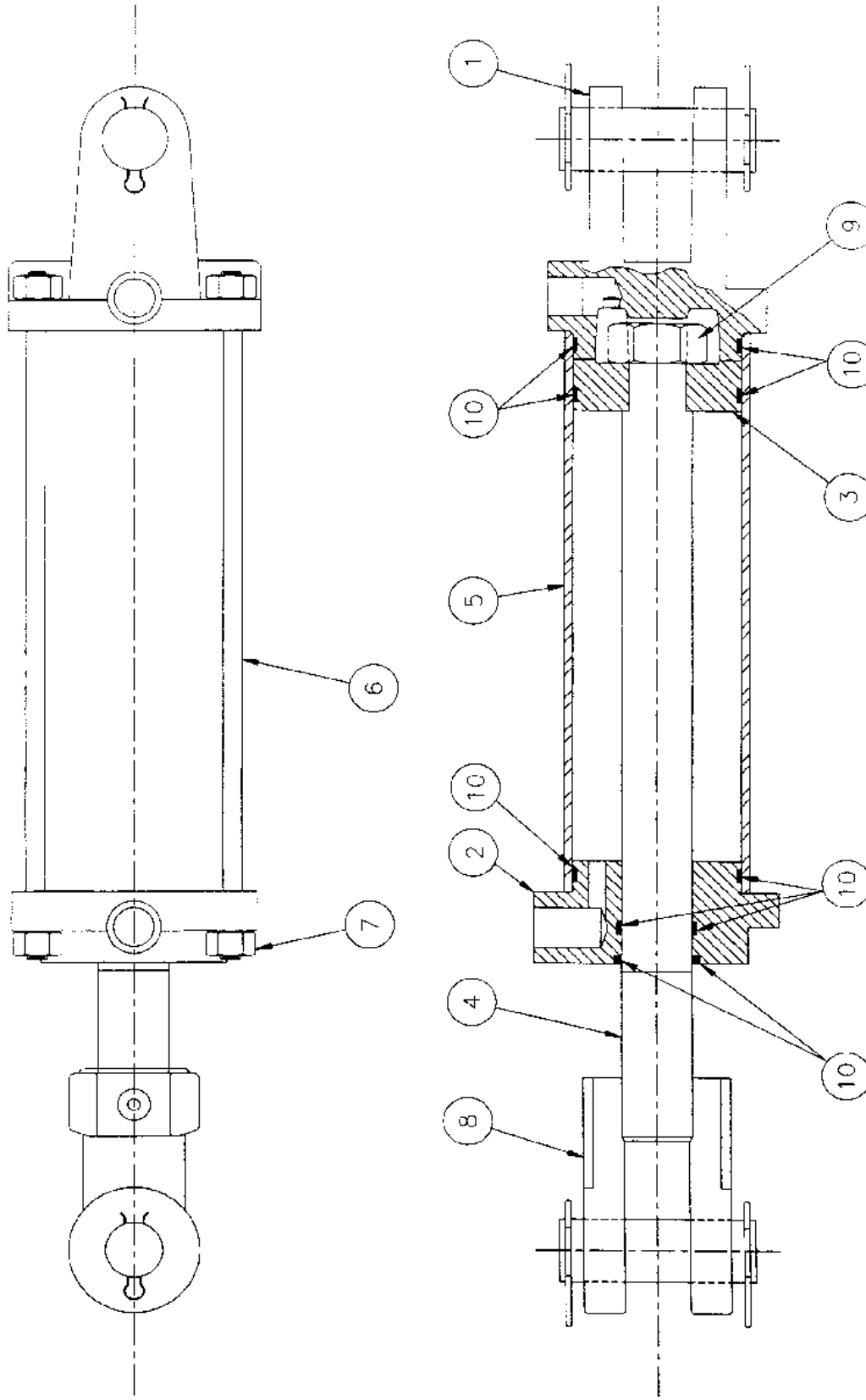
Hydraulic Layout



Item No.	Part No.	Description
1	601217	1/2" Pioneer end 30209
2	601003	3/8"x96" 1/2" MNPT - 1/2" MJIC hose 32578
3	90442	1/2"x108" Steel Lines
4	90245	3/8"x28" 1/2" FJIC 1/2" MJIC hose
5	849FS0808	90 deg. 1/2" MNPT - 1/2" MJIC
6	90103	3-1/2" x 16" Hydraulic Cylinder
7	92145	Hydraulic Motor RE 32070 500
8	848FS00810	1/2" MJIC - 7/8" MORB
9	871FS08	1/2" FJIC - 1/2" MJIC - 1/2" MJIC" Tee
10	90240	3/8"x36" 1/2" FJIC - 1/2" FJIC hose
11	848FS00806	1/2" MJIC -9/16" MORB
12	92101	Flow Divider
13	601034	3/8"x96" 1/2" MNPT - 1/2" FJIC hose 32609
14	90271	3/8"x42" 1/2" FJIC - 1/2" FJIC hose
15	849FSO0806	90 deg. 1/2" MJIC -9/16" MORB
Optional	61SA0808062	Restrictor

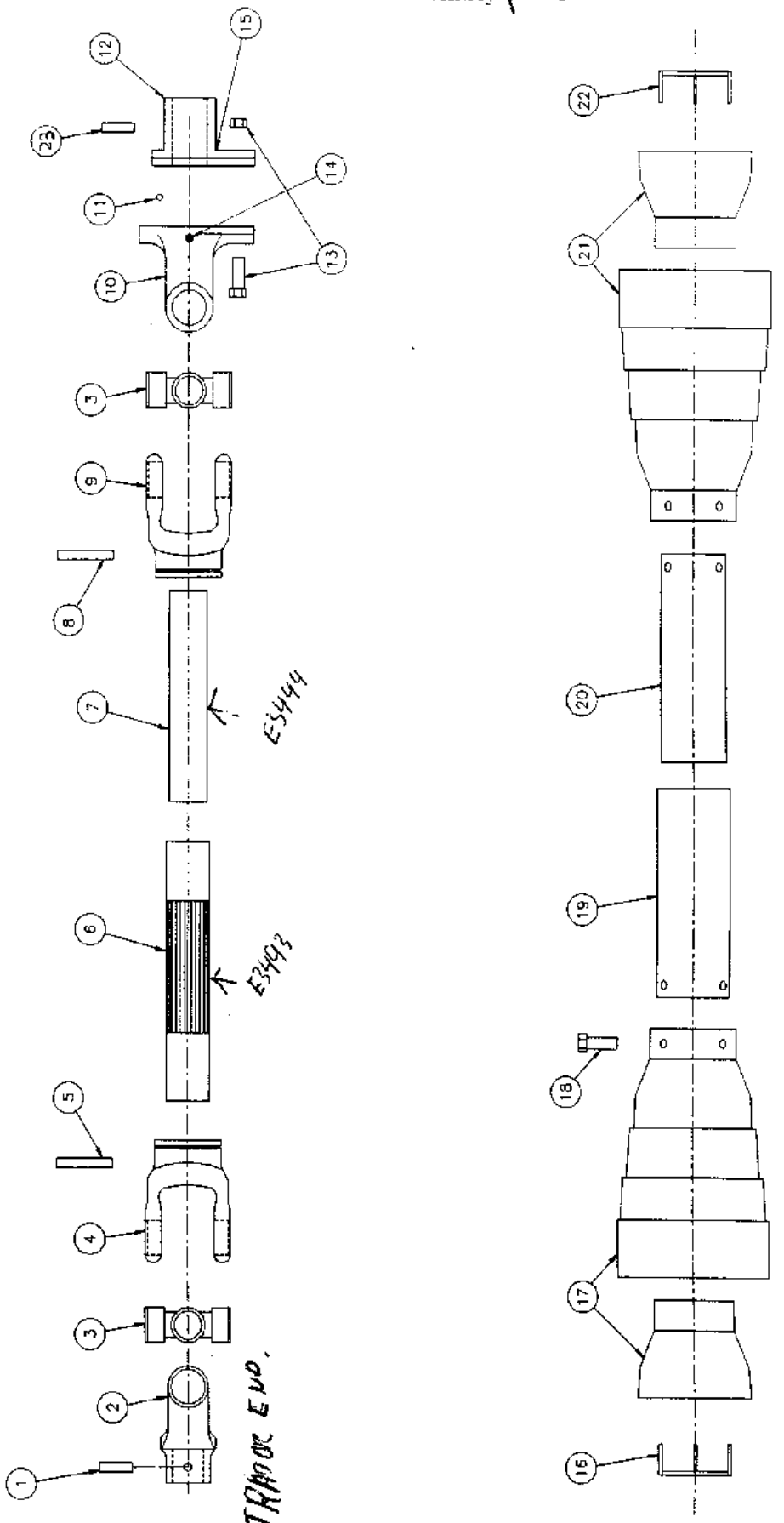
32647 SEAL KIT

Cylinder Assembly



Item No.	Part No.	Description
1	90844	Clevis Cap
2	90845	Rod Cap
3	90700	Piston
4	90846	1-1/2" Rod
5	90740	Cylinder Tube
6	90847	5/8" Tie Rod
7	90848	5/8" UNF Nut
8	90849	Rod Clevis
9	90722	1-14 UNS Nut
10	90685	Seal Kit
NA	90103	3-1/2"x16" 1-1/2" Rod Cylinder Complete

PTO Assembly Kelgar

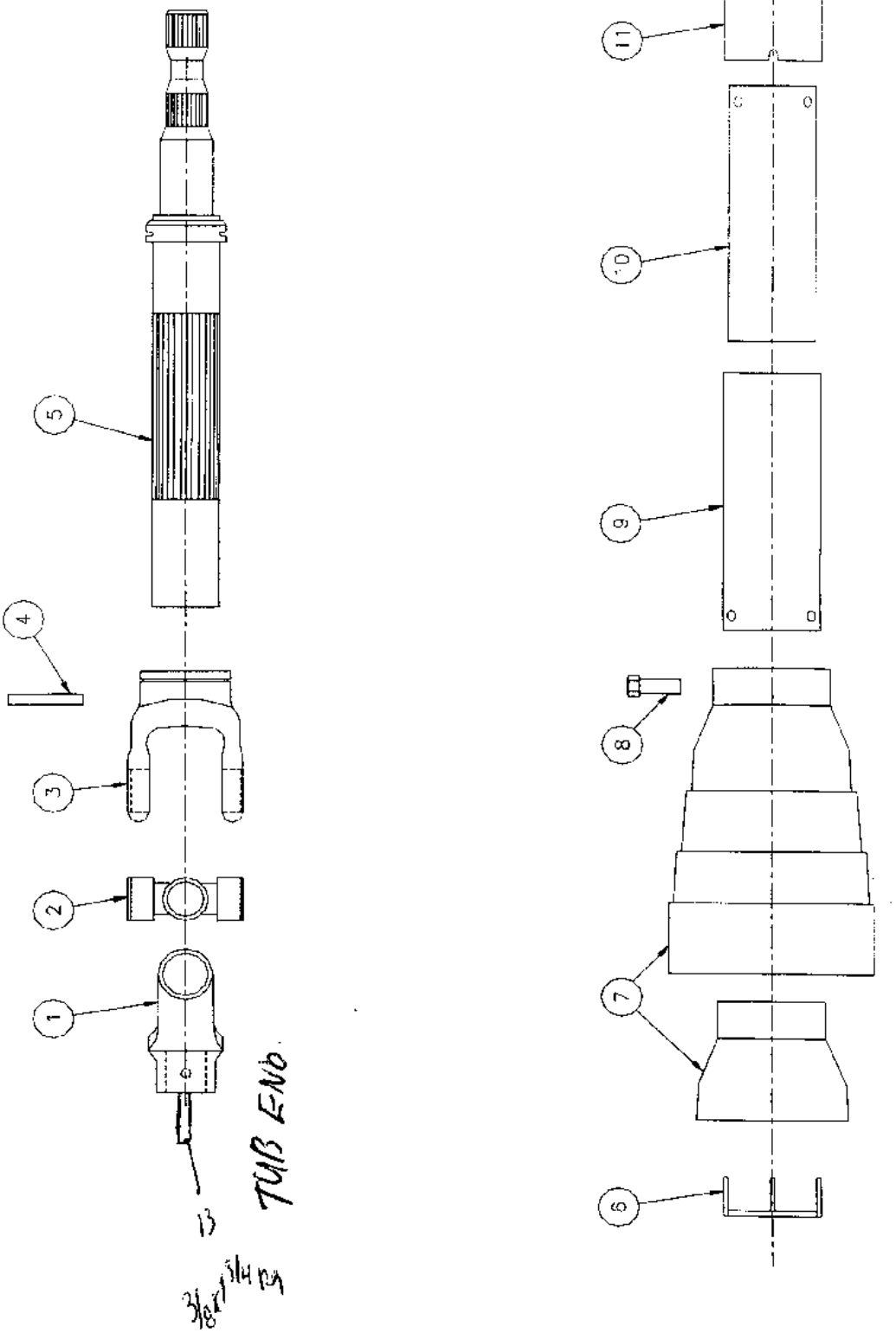


Complete PTO 32906 OR 901161

Item No.	Part No.	Description
1	901123	Push Pin Set 1-3/8" 32860
2	901152	Push Pin Yoke 113 32907
3	901118	Cross Journal Set 32863
4	901119	Outer Yoke 32864
5	901120	Roll Pin for Outer Tube 32865
6	901121	Outer Tube E3493
7	901122	Inner Tube E3494
8	901124	Roll Pin for Inner Tube 32869
9	901128	Inner Yoke 32873
10	901162	Yoke for B05 32907
11	901155	Ball 5/16" 32880 (24 BALLS)
12	901158	Hub B05 32903
13	901148	Bolt M10x60 cl.8.8 & Nut ← shear bolt for PTO 32893
14	901156	Grease Nipple 32901
15	901159	Complete Shear Bolt B05 32904
16	901136	Guard Retaining Collar for Outer Tube 32881
17	901163	Cone for Outer Tube 32906
18	901137	Bolt 32882
19	901164	Outer Shield 32909
20	901165	Inner Shield 32910
21	901166	Cone for Inner Tube 32911
22	901143	Guard Retaining Collar for Inner Tube 32886
23	901173	Push pin set 1-3/4" 32917
24	32866	DRV. TUBE, OUTER, EG 160200, 3M
25	32867	DRV. TUBE, INNER, EG-150100, 3M

901154 PTO Extension Complete.

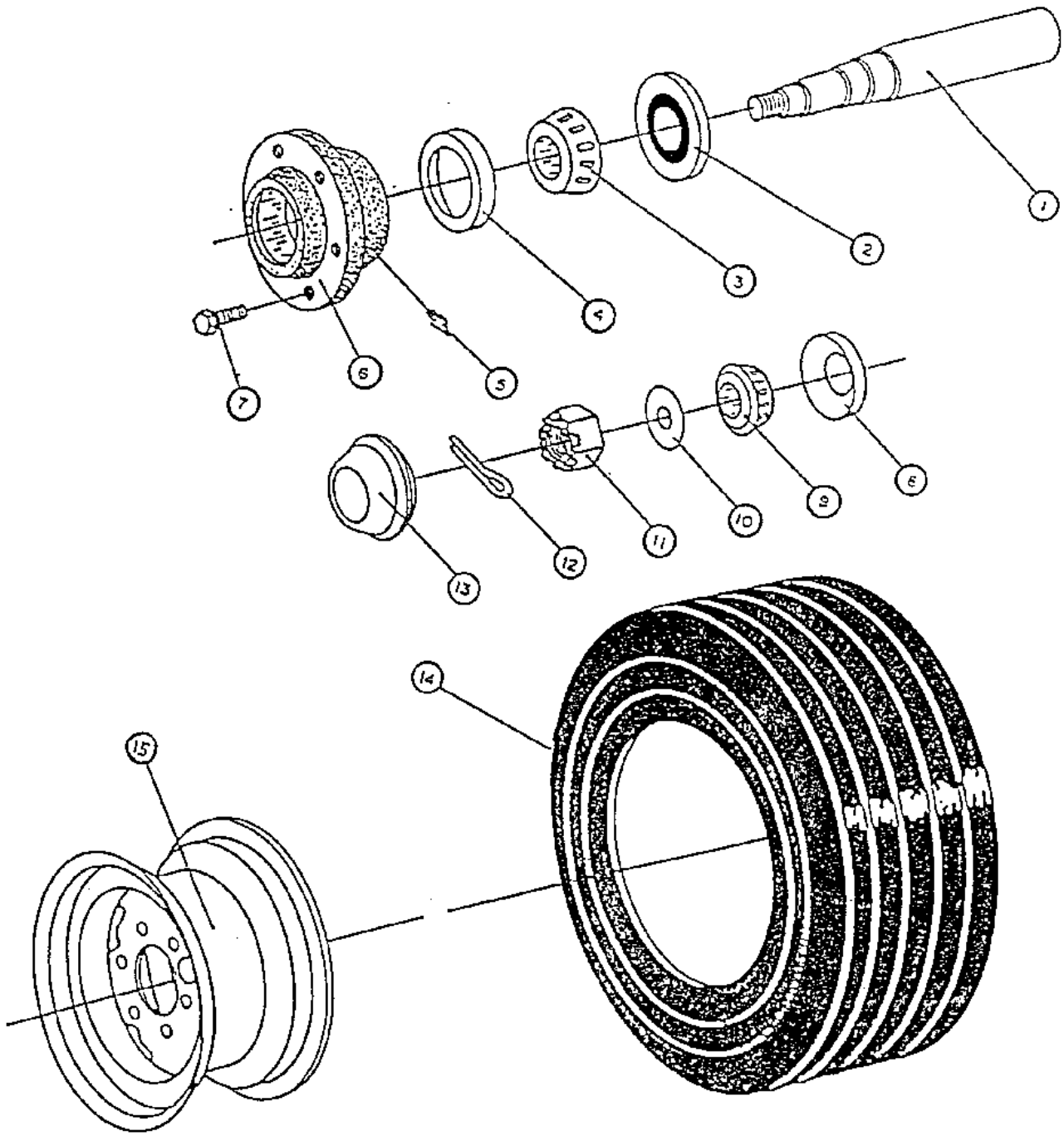
PTO Extension Assembly



901154 OR 32899 Complete Extention

Item No.	Part No.	Description	
1	901[illegible]7	Special Yoke 32892	
2	901118	Cross Journal Set 32863	
3	901119	Yoke for Outer Tube 32864	
4	901120	Roll Pin for Outer Tube 32865	
5	901168	Outer Tube With Splined Shaft 32912	
6	901136	Guard Retaining Collar for Outer Tube	32881
7	901169	Extended Cone for Outer Tube 32913	
8	901137	Bolt 32882	
9	901170	Outer Shield 32914	
10	901171	Inner Shield 32915	
11	901172	Centering Ring 32916	
12	901143	Guard Retaining Collar for Inner Tube	32888
13	E2976	3/8 x 1 3/4 Pin	

Hub & Wheel Assembly



Item No.	Part No.	Description
1	301008	SE16 Spindle only 32303
2	301011	SE16 Grease Seal 32306
3	301010	LM603049 Inner cone 32305
4	301009	LM603012 Inner cup 32304
5	91700	1/8 NPT Straight Zerk
6	301017	H614 Hub 32312
7	301006	WB12 Wheel Bolt 9/16" 32301
8	301004	LM48510 Outer cup 32299
9	301005	LM48548 Outer Cone 32300
10	301003	WA17 Washer 1" ID x 2"OD 32298
11	301002	Castellated Nut 1" 14 UNS 32297
12	CP0324	3/16" x 1-1/2" Cotter Pin
13	301001	DC15 Dust Cap 32296
14	301013	11L x 15 6 PLY Tubeless 32308
15	91050	15 x 8 x 6 RIM
	301017	HUB WITH BEARINGS. 45228

8. Specifications

Recommended Minimum Horsepower Required:	85 HP
Capacity:	6' diameter bale
Height:	90"
Width	100"
Weight	4000 lb.
PTO Requirements:	1000 R.P.M.
Dual Hydraulics:	2000 psi.

Report: BM081R
Date: 5/01/98
Time: 11:13:04
By: BJW @ QPADEV0008

CMS Bill of Materials - Single Level BOM Report

Parent Part #: 49052
*KIT,CYL,TWO,UPDATE
Customer:

Customer Part #:
ECN #:
Eng. Drwg. #:
Location:
Revision: 0 1/01/01
Size:

Seq/Line	Component Part #	Description	Quantity Per	Units	Engineering Drawing #	Stock Type	ECN#	Vendor #	Stock Location
10- 1	90103	HYD,CYL,3.5X16,1.5,8FP	1.0000	EA		P			WRH
10- 2	90333	HYD,HOSE,3/8X28,8FJX-8FJX	2.0000	EA		P			WRH
10- 3	90332	HYD,HOSE,3/8X20,8FJX-8FJX	2.0000	EA		P			WRH
10- 4	90444	HYD,LINE,1/2X116-1/2,8FJ	2.0000	EA		P			WRH
10- 5	30313	HYD,FIT,TEE,8MJ-8MJ-8MJ	2.0000	EA		P			WRH
10- 6	E3234	LUG,CYL,BOTTOM	2.0000	EA		P			WRH
10- 7	E3248	GUSSET,CUTOFF	4.0000	EA		P			WRH
10- 8	30212	HYD,FIT,ELBOW,8MP-8MJ90	2.0000	EA		P			WRH
10- 9	E2065	LUG,CYL,TOP	4.0000	EA		P			WRH
10- 10	45184	PIN,CYL,TOP,LONG,BP	2.0000	EA		M			WRH
10- 11	45185	PIN,CYL,BOTTOM,SHORT,BP	2.0000	EA		M			WRH

Pin Cyl. w/ Update