

PARTS

1997

HIGHLINE MFG. INC.

Kelly's

1997

BALE PRO 6600

Assembly-Operator Parts Manual

Warranty

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

- Warranty registration must be submitted to Highline Mfg. within 30 days of purchase of the Bale Pro 6600.
- 1st year Parts & Labour
- 2nd year Parts Only
- All matters related with the warranty of products must be handled through an authorized Highline Mfg. dealer.
- Any labour subject to warranty must be authorized by a Highline 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 Highline Mfg. Inc.
- Highline 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 Mfg. 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 the manual you will find safety procedures, maintenance routines and detailed parts diagrams.

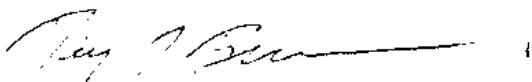
The *Bale Pro 6600* was designed for controlled, more aggressive processing with less bunching. A little time and effort spent in proper maintenance will increase the performance and durability of your bale processor.

In order to maintain high standards, improvements are made from time to time. Highline Mfg. 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 your local dealer or Highline.

Highline Mfg. 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
Internet Address: <http://www.spectramedia.com/highline/>

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. Manual 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 hydraulic motors ensure the feeder drums are level by adjusting the front and rear feeder drum adjustment screws.

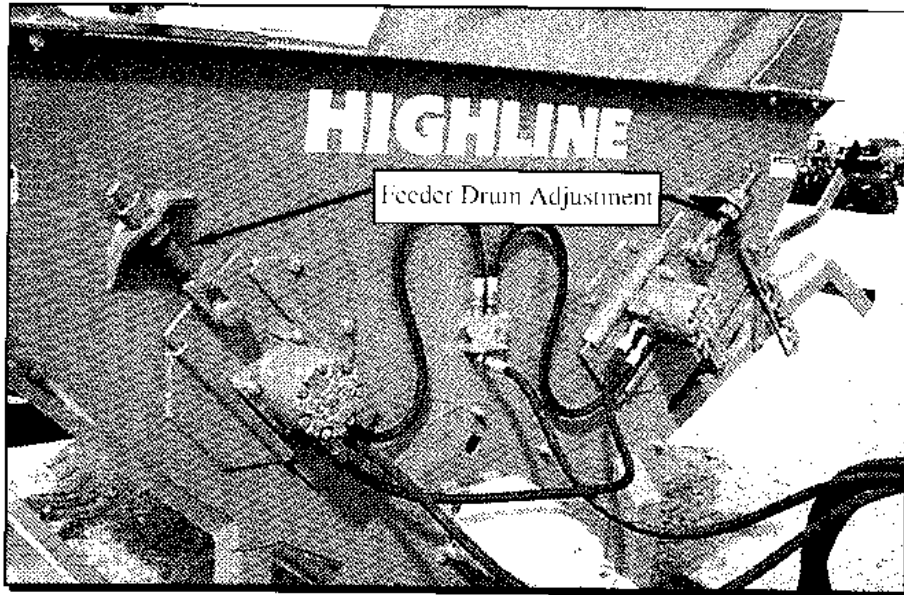


Figure 2 Feeder Drum

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.

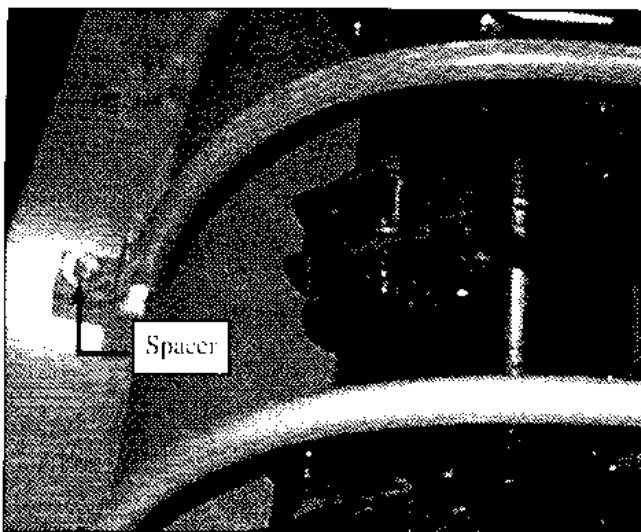


Figure 3 Flail Drum

Caution:

Twine must be removed from the flail drum **at least** every 25 bales. Premature bearing failure may occur if the twine is allowed to build up on the drum.

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 Extension Assembly
Grease every ten bales. | 7. Fork Pivot (pipe-clamp) left
Grease every one hundred bales. |
| 2. PTO Assembly
Grease every ten bales. | 8. Fork Pivot (pipe-clamp) right
Grease every one hundred bales. |
| 3. PTO Extension Shaft Bearing
Grease every fifty bales | 9. Tire Hub-left
Greasing dependent upon travel |
| 4. Feeder Drum bearing-right
Grease every fifty bales | 10. Tire Hub-right
Greasing dependent upon travel |
| 5. Feeder Drum Bearing-left
Grease every fifty bales. | 11. Fork-left
Grease every one hundred bales. |
| 6. Flail drum bearing
Grease every fifty bales | 12. Fork-right
Grease every one hundred bales. |

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

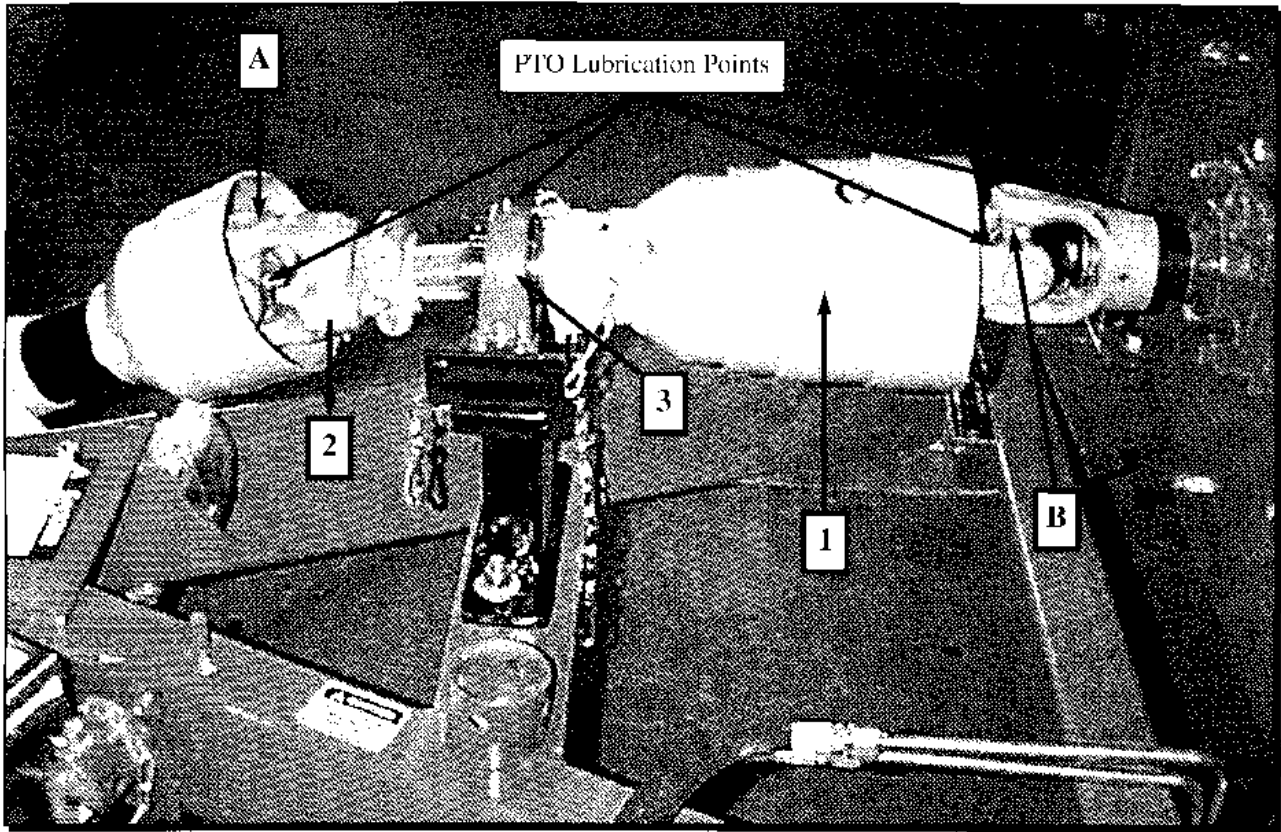


Figure 4 PTO Installation & Lubrication

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.

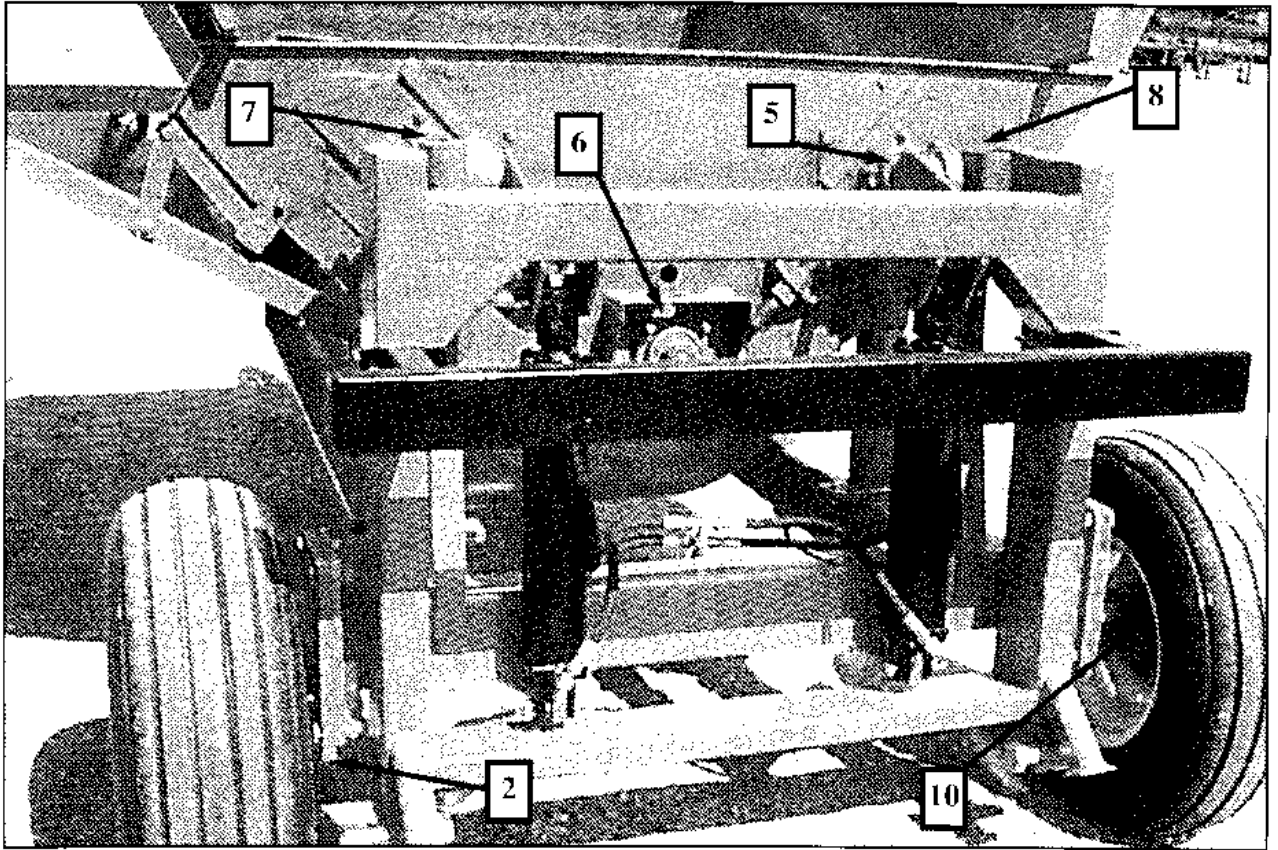


Figure 5 Assorted Lubrication Points

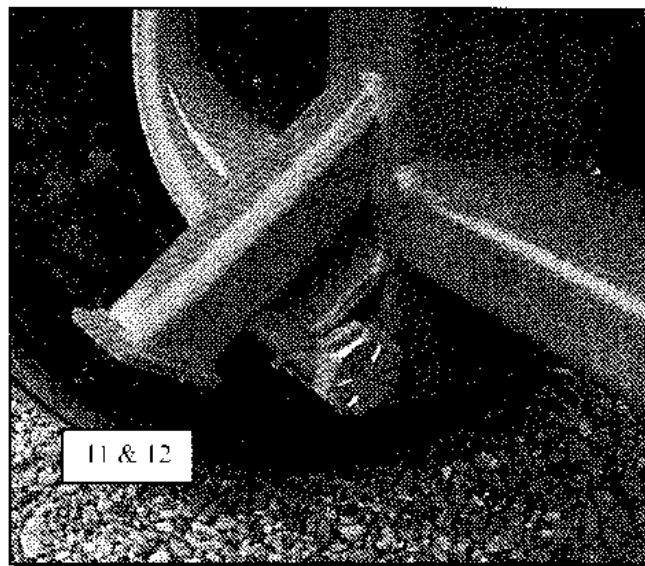


Figure 6 Fork Lubrication Points

General Maintenance

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.

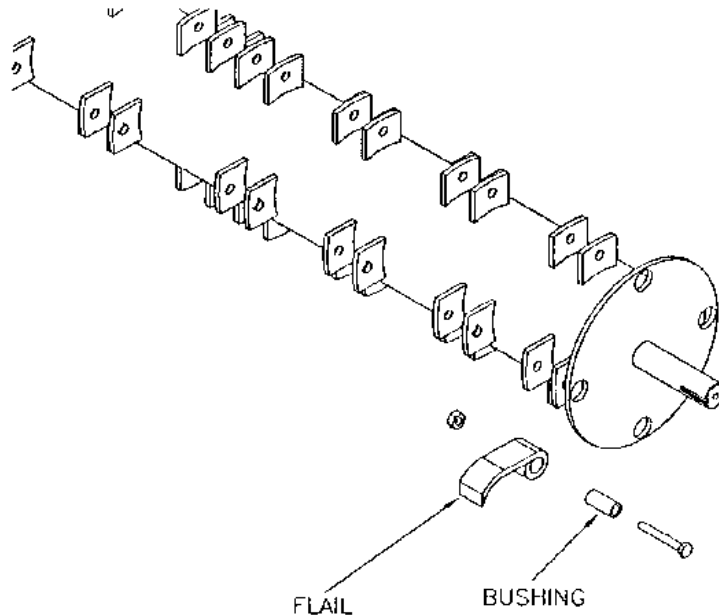


Figure 7. Flail Drum



Caution:

Check the pipe-clamp bolts every 50 bales and tighten them if they become loose.(Figure 8)

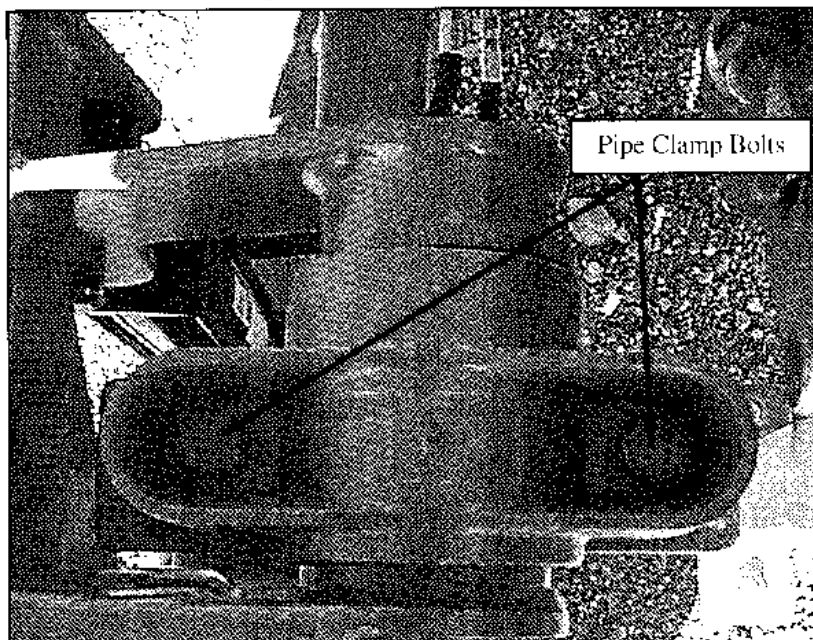


Figure 8 Pipe Clamps

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. Read carefully before operation of your Bale Pro 6600.

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.

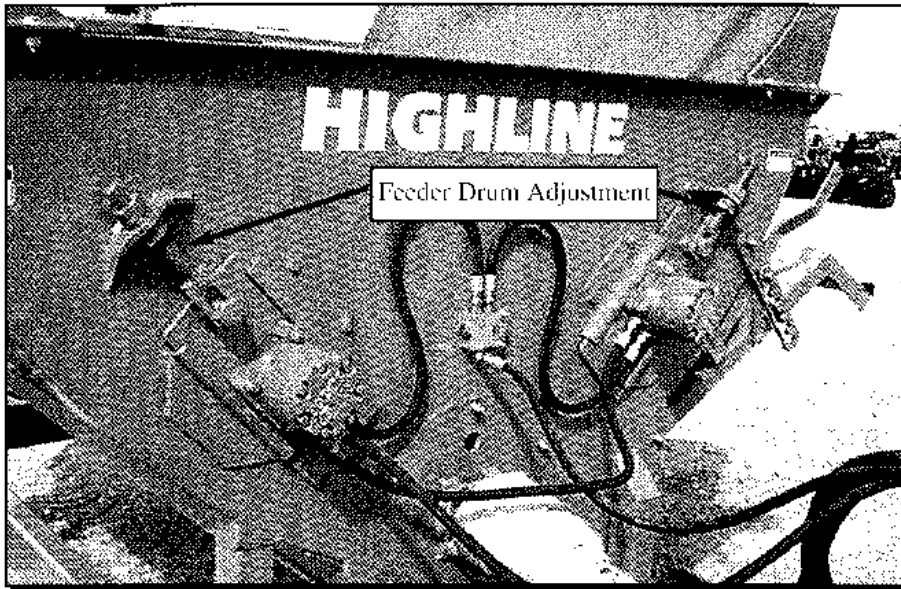


Figure 9 Feeder Drum Adjustment

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

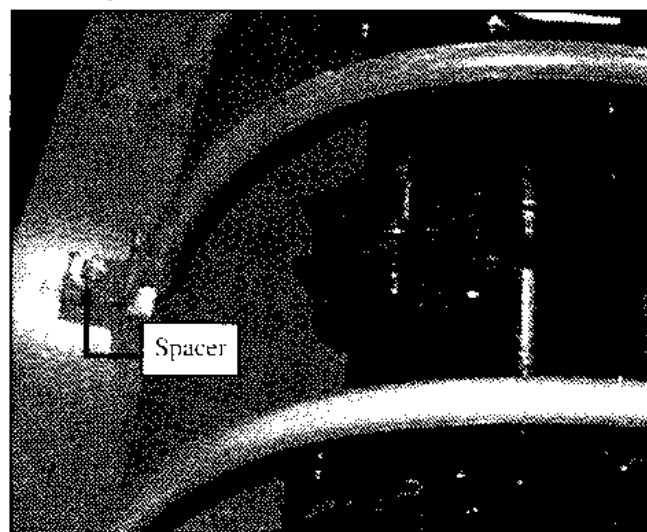
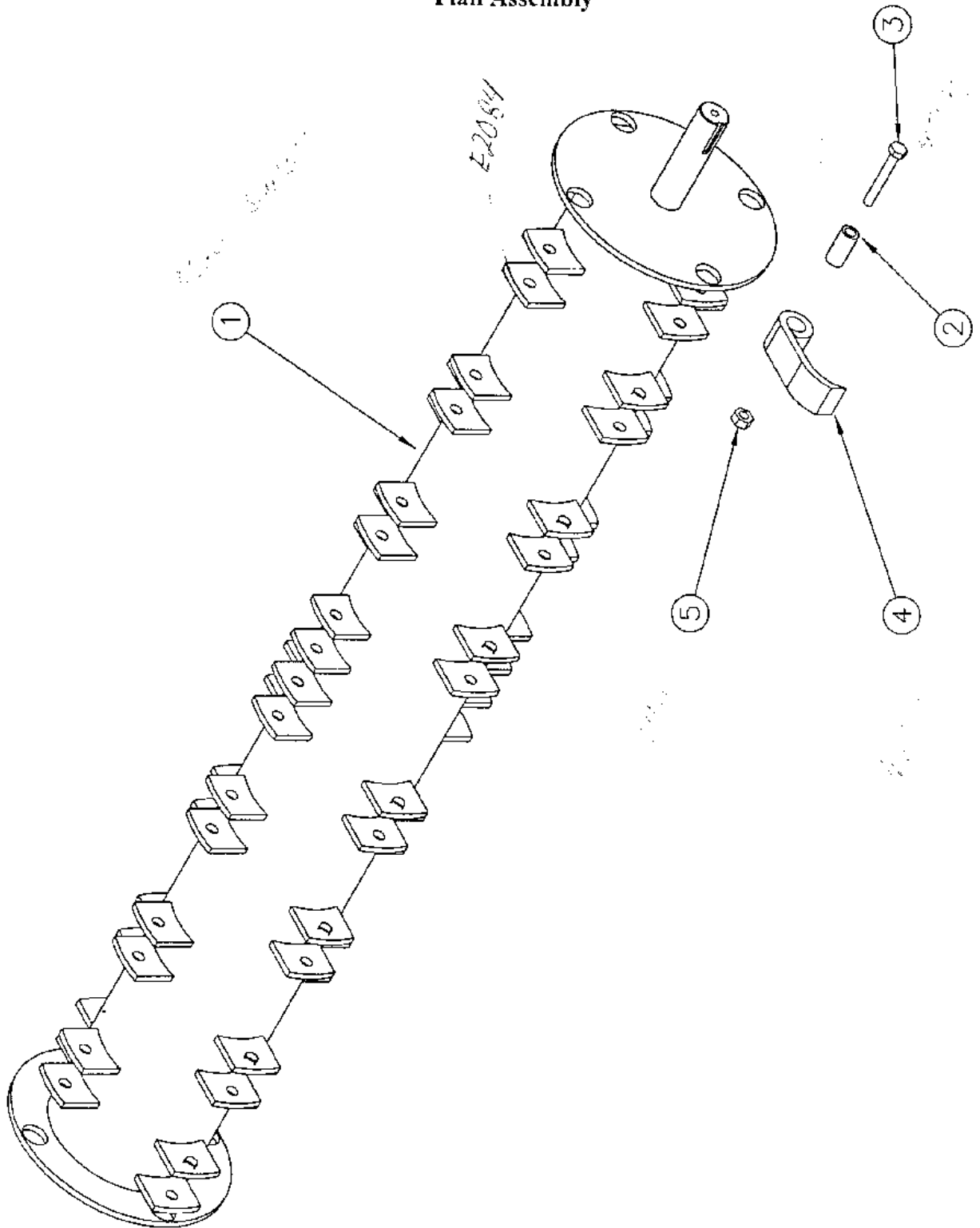


Figure 10 Flail Guard Spacer

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

7. Assembly & Installations Flail Assembly



Baffle
Princy
E3233

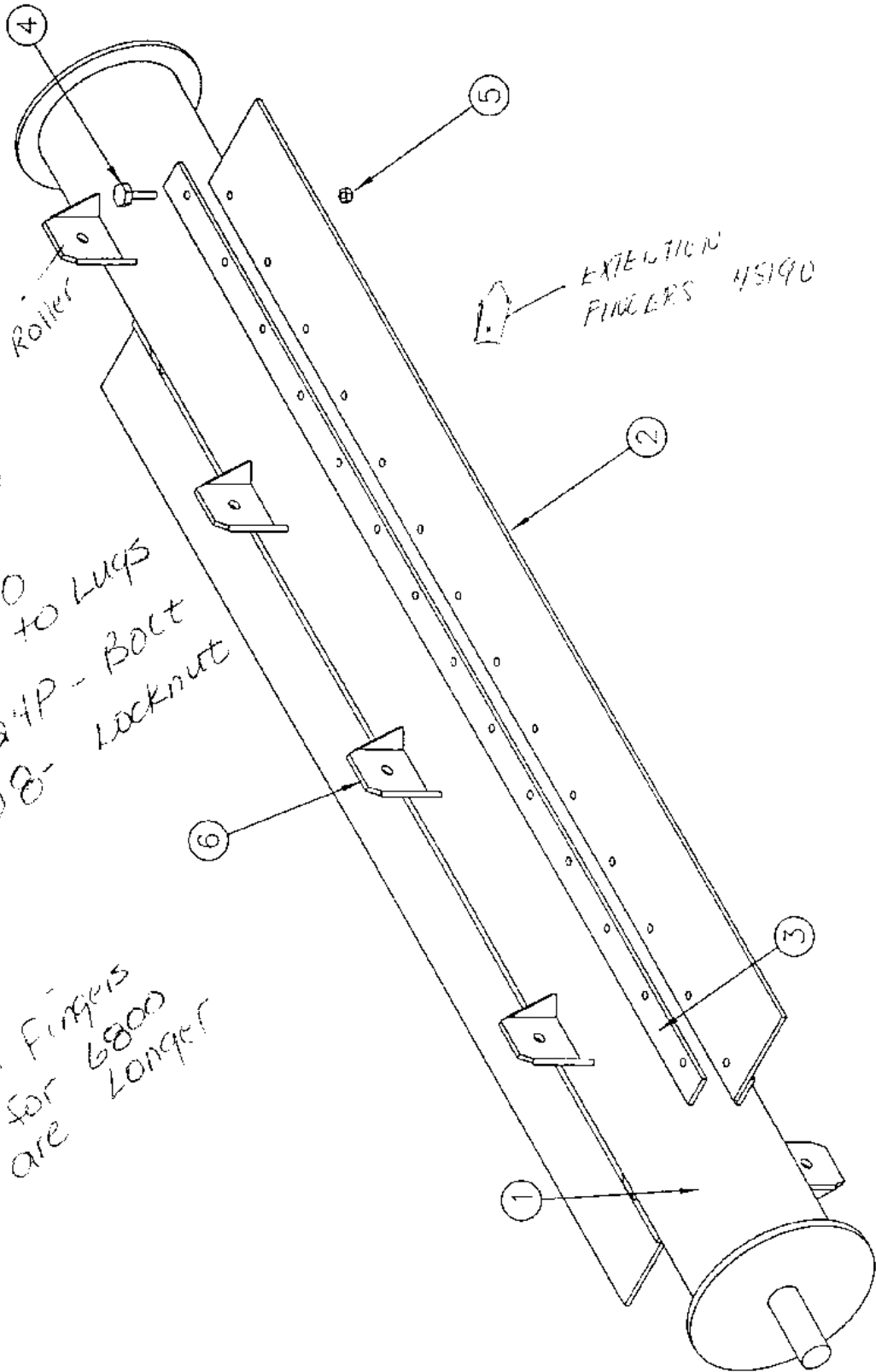
Item No.	Part No.	Description
1	45199	Flail Drum 6600 Model (no flails)
2	45072	Flail Bushing
3	45099	5/8" x 3-3/4" UNF GR 8 Stud
4	45075	Flail
5	SLNF10	5/8" UNF Locknut
6	45200	Flail Drum Complete (flails installed)



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

9.0000
Roller
with fit 9/16
Machine
Pin 45190

Feed Roller



is
welded
on
Roller

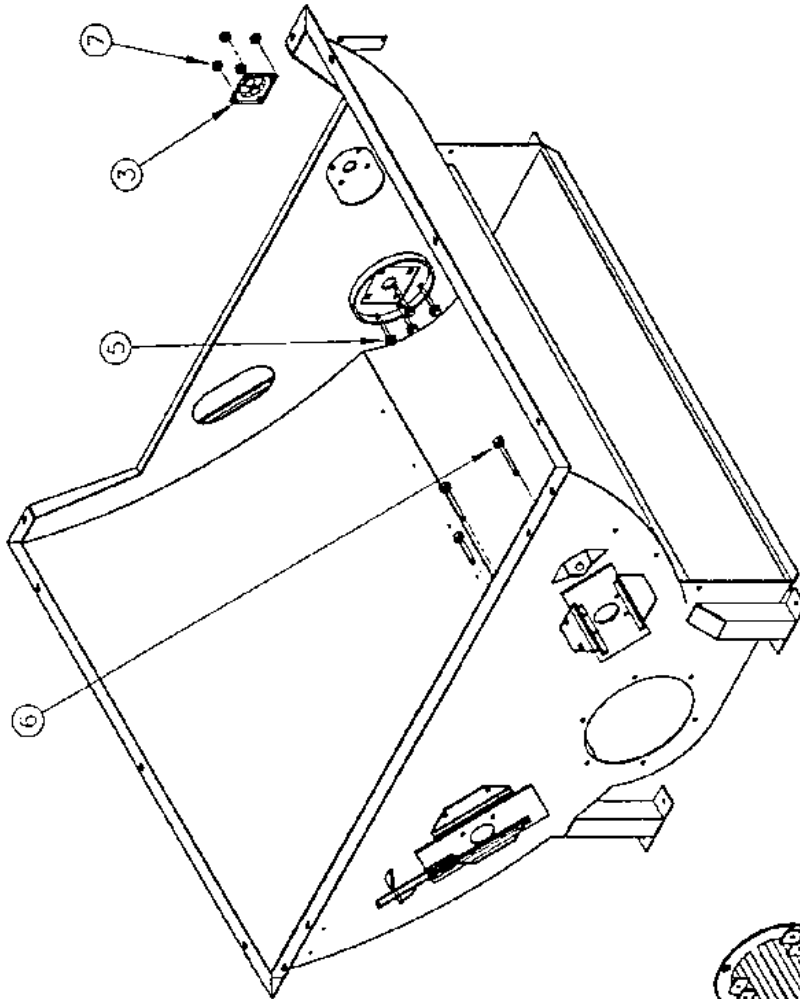
EXTENSION
FINGERS 45190

EXTENSION
FINGERS
45190
Bolt in to LUGS
B5C0324P - Bolt
L11C08 - Locknut

No extension Fingers
required for
LUGS are
6800
longer

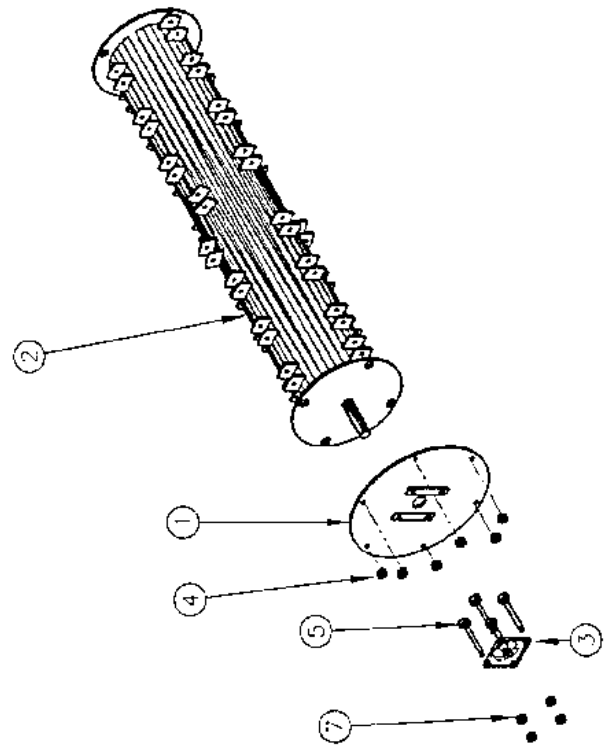
Item No.	Part No.	Description
1	45213	Feed Drum Complete
2	45209	3/8"x5"X55" Belting - 2003
3	45212	3/8"x1-1/2"x55" Back Plate @ 2003
4	B5C0528P	5/16"x1 3/4" Bolt UNC Gr. 5
5	LNC05	5/16" UNC Lock Nut
6	45154	Feed Roller Lug

Flail Drum Installation



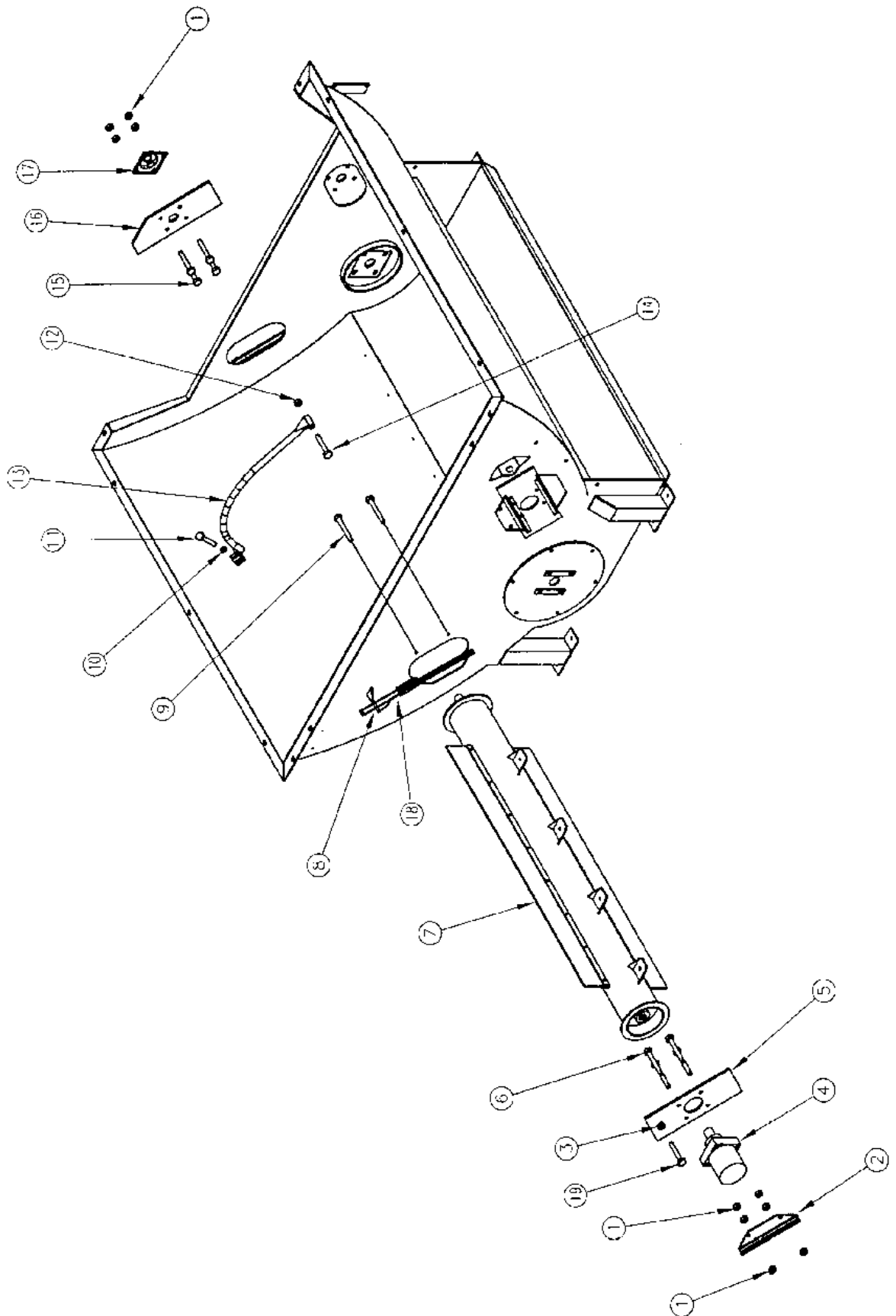
FLAIL DRUM RING.
- E 3233

*This drum will fit '95 & '96
but alignment must be exact when*



Item No.	Part No.	Description
1	45193	Front Plate with Shield
2	45200	Flail Drum Complete
3	92091	1-3/4" Flange Bearing
4	LNC08	1/2" Locknut
5	C5C1040	5/8"x2-1/2" UNC Carriage Bolt
6	B5C0840P	1/2"x2-1/2" UNC GR 5 Bolt
7	SLNC10	5/8" Stover Locknut

Feed Drum Installation

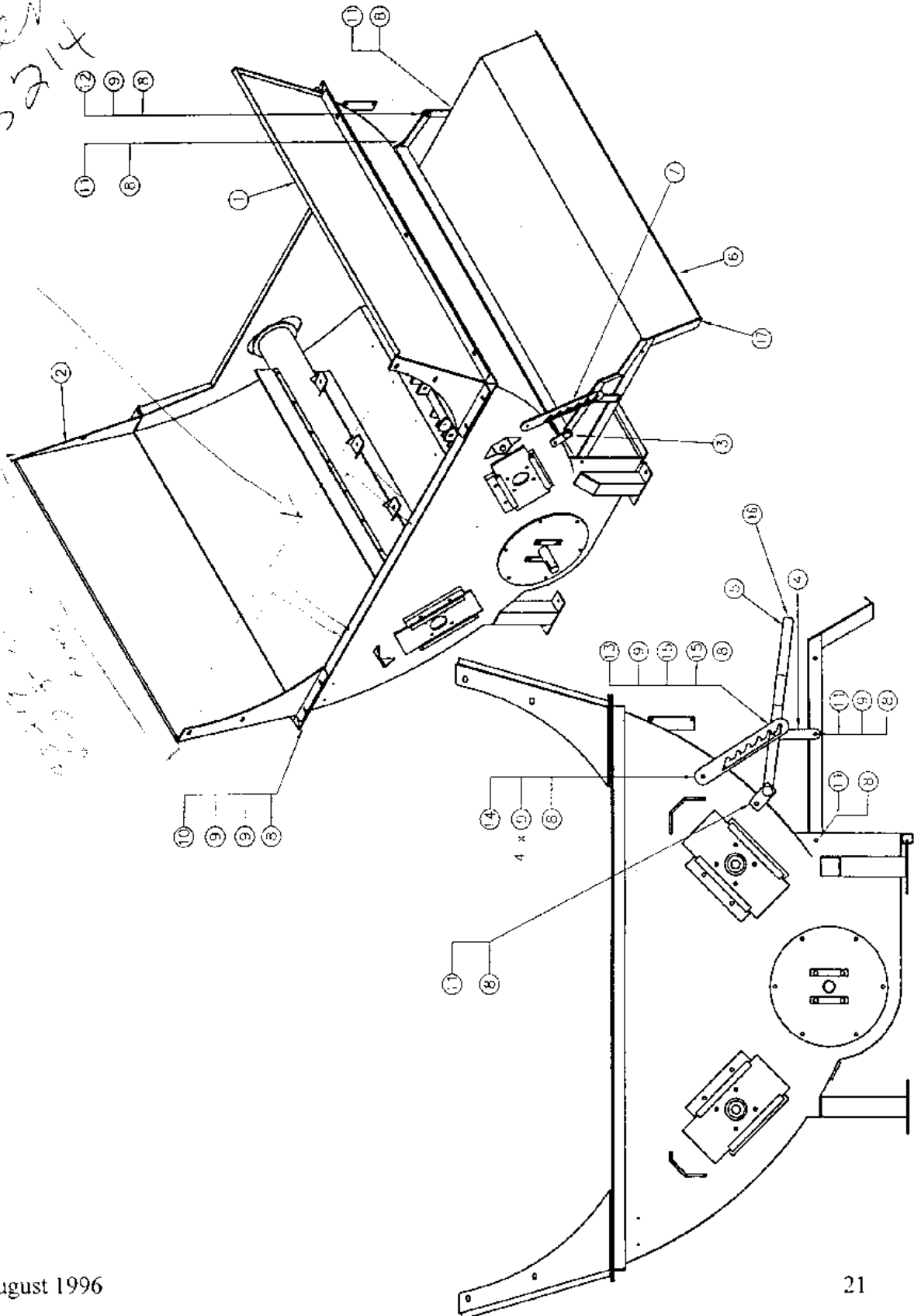


Item No.	Part No.	Description
1	LNC08	1/2" Lock Nut
2	45191	Top Slide Plate Retainer
3	NC16P	1" Nut
4	92045	Hydraulic Motor <i>RE 32070400</i>
5	45124	Feed Roller Motor Mounts
6	B5C0840P	1/2"x2-1/2" UNC GR 5 Bolt
7	45186	Feed Roller
8	NRAHCME16	1" ACME Right Hand Nut
9	B5C0820P	1/2"x1-1/4" UNC GR 5 Bolt
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

20	HULL LINED	30274	OR	701028
21	SEAL KIT	32647	OR	601305
22	DRIVEN SHAFT	32653	OR	601311
23	SEAL	32656	OR	601314
24	THRU BEARING	32651	OR	601309
25	TORQUE CON BEARING	32650	OR	601308
26	1500 BUSHING	31649	OR	601307
27	SEAL KIT	32647		

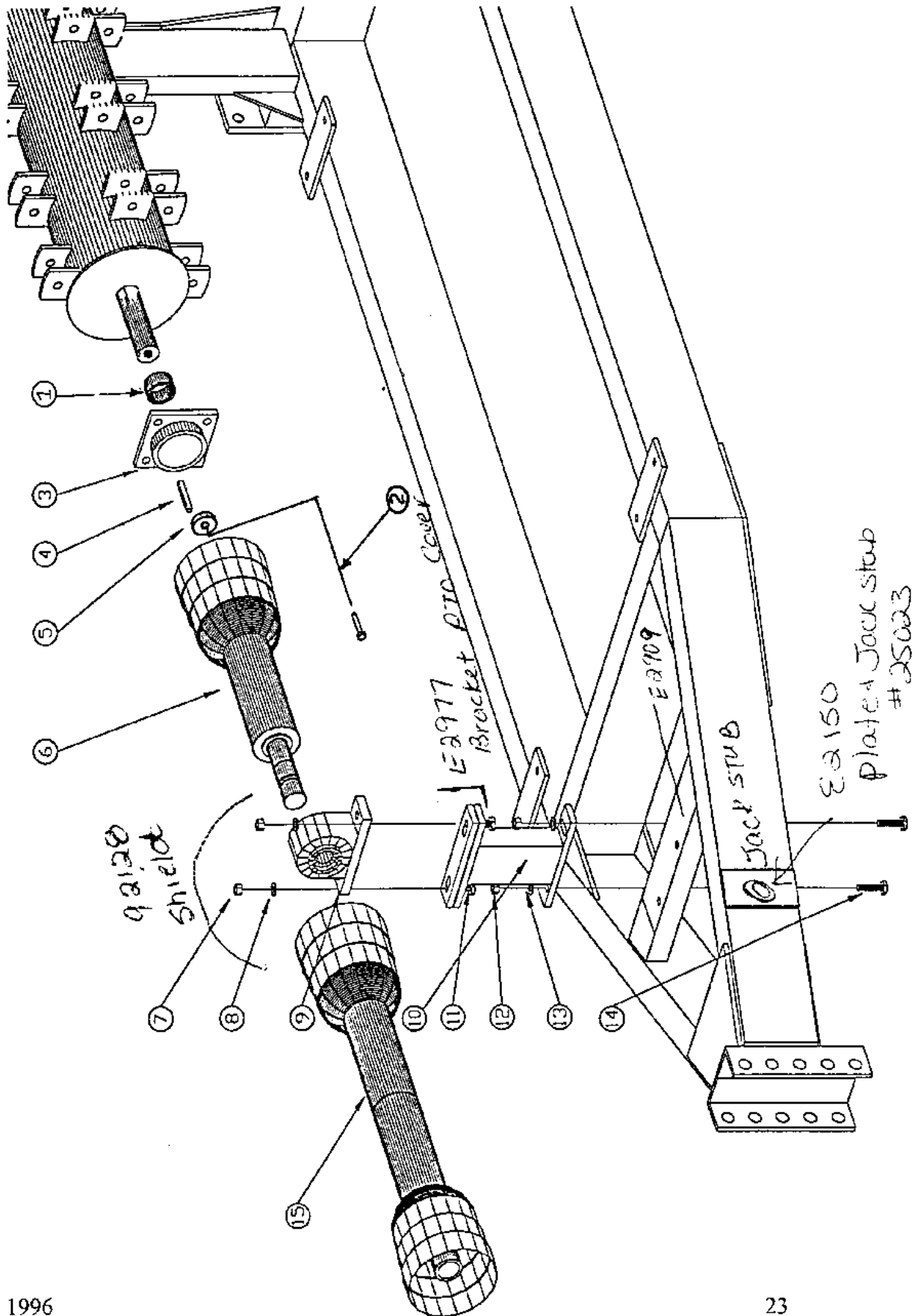
Shield Installation

SCREEN
45214



Item No.	Part No.	Description
1	45065	Left Bale Deflector
2	45083	Right Bale Deflector
3	45197	Deflector Arm Pivot
4	45164	Deflector Link
5	45196	Deflector Shield Lever
6	45198	Discharge Deflector
7	45119	Deflector Adjusting Bar
8 ³¹¹³	LNC08	1/2" UNC Lock Nut
9 ³¹²³⁶	FW08P	1/2" Flat Washer
10 ³¹⁰¹⁷	B5C0824P	1/2"x1-1/2" UNC GR 5 Bolt
11 ³¹⁰⁰⁸	C5C0824P	1/2"x1-1/2" UNC GR 5 Carriage Bolt
12 ³¹⁰¹⁷	B5C0828P	1/2"x1-3/4" UNC GR 5 Bolt
13 ³¹⁰⁰⁴	C5C0832P	1/2"x2" UNC GR 5 Bolt Carriage Bolt
14 ³¹⁴³¹	C5C0836P	1/2"x2-1/4" UNC GR 5 Carriage Bolt
15	92081	2"OD x 9/16"ID Washer
16	92127	Rubber Handle Grip
17	92223	Rubber Cap Protectors

PTO Installation



Shield Assembly
 B5C0416 - Bolt
 FWO4 - Washer
 LNC04 Locknut

Item No.	Part No.	Description
1	E2974	2-1/4"OD x.250" x 7/8" Seamless
2 32794	801732	5/16" x 3" Spring Pin 32794
3	92091	1-3/4" Flange Bearing
4	45170/E2976	3/8"x3/8"x2" Key
5	92081	2" OD x 9/16" ID Flat Washer
6	901154	PTO Shaft Extension 32999
7 31179	LNC09	9/16" UNC Lock Nut
8 31242	FW09	9/16" Flat Washer
9	92031	1-3/4" Pillow Bearing
10	45149	PTO Stub Stand
11 13153	B5C0948P	9/16"x3" UNC Gr. 5 Bolt
12	LNC09	9/16" UNC Lock Nut
13	FW09	9/16" Flat Washer
14 31151	B5C0932P	9/16"x2" UNC Gr. 5 Bolt
15	901161	PTO Shaft 32906
16	E2973	2-1/4"OD x.250" x 1/4" Seamless

NOTE:

Item 16 not shown on drawing. Same placement as shown for item 1 but on opposite end of the flail drum.

*Tractor end PTO Not sold complete 1/2
Parts*

1 x 32908

1 x 32909

1 x 901118 - 32863

1 x 901152

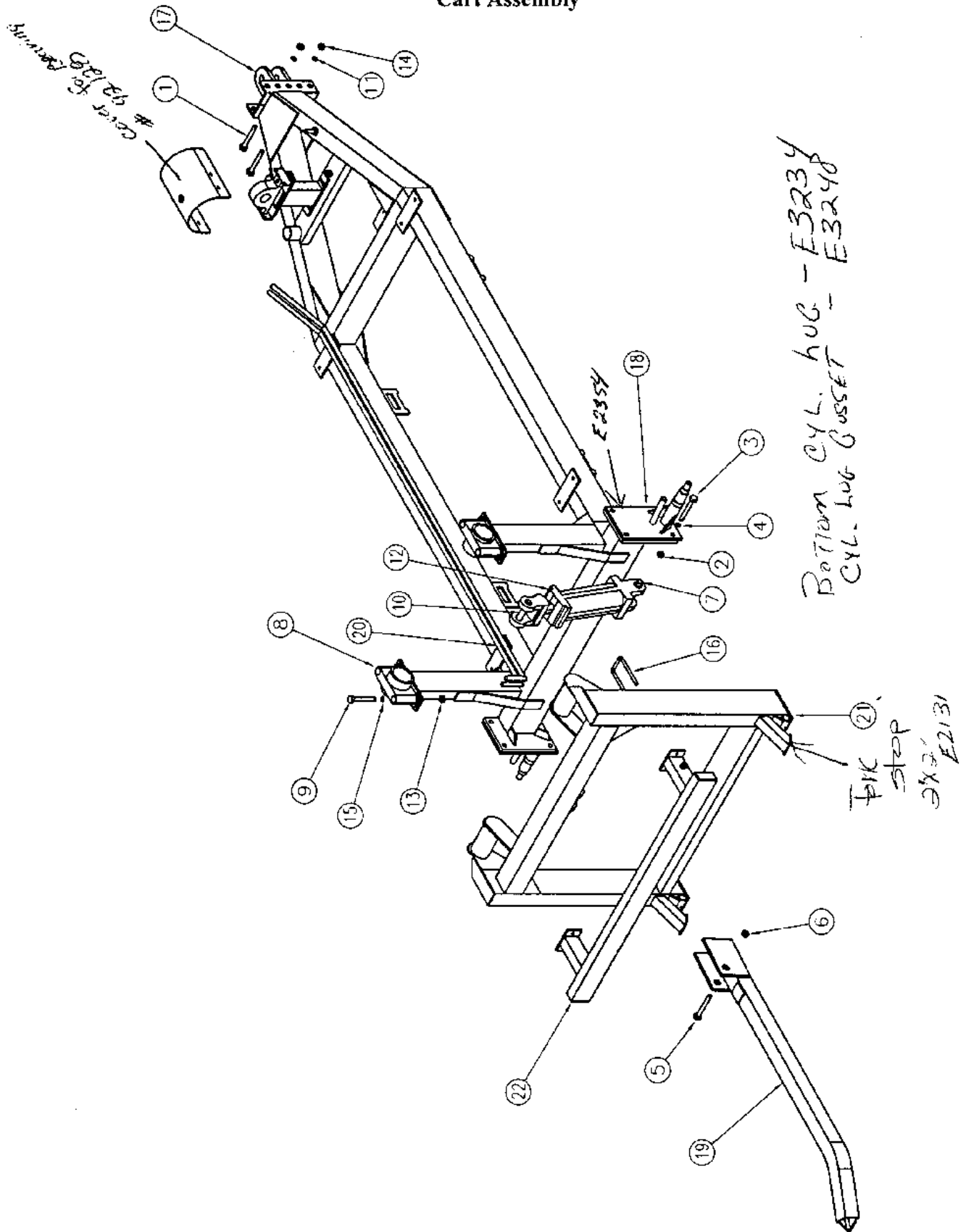
1 x 901121 32866

1 x 901119 32864

1 x 901136

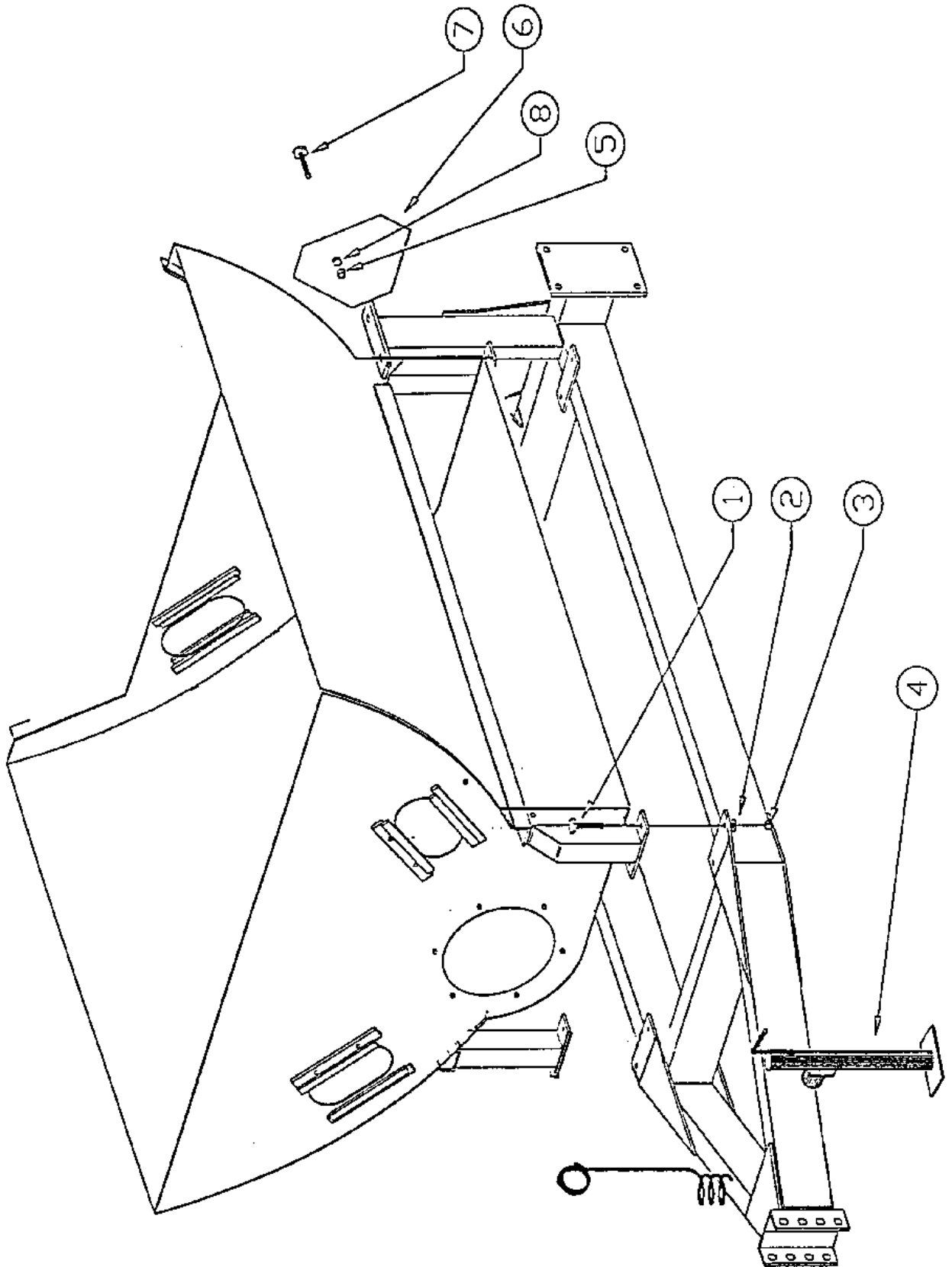
3 x 901137

Cart Assembly



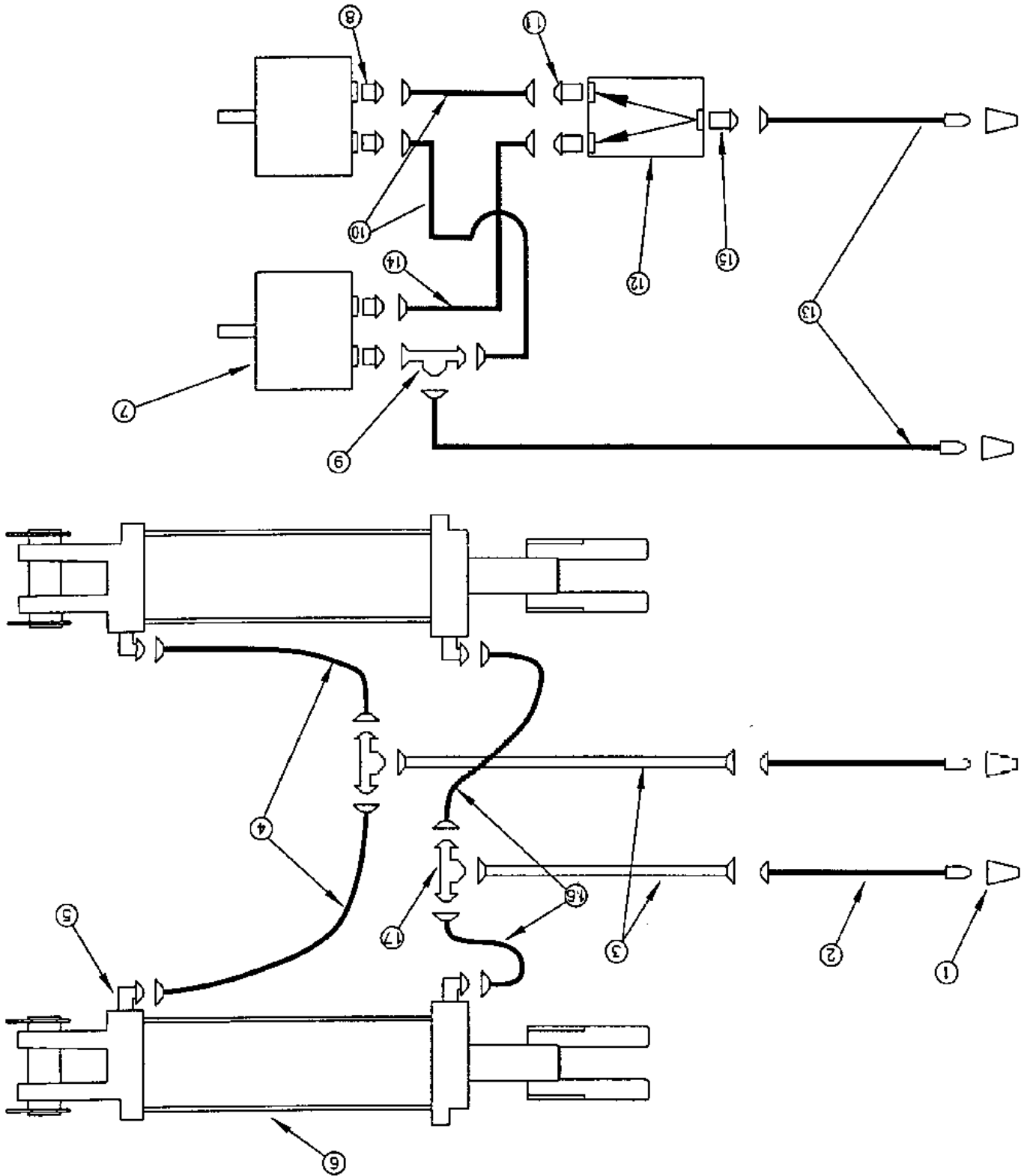
Item No.	Part No.	Description
1 3/478	B5C16120P	1"x7-1/2" UNC GR 5 Bolt
2 3/167	NC12P	3/4" UNC Nut
3 3/040	B5C1240P	3/4"x2-1/2" UNC GR 5 Bolt
4 3/246	LW12P	3/4" Lockwasher
5 301634	B5C2096P	1-1/4" x 6" UNC GR 5 Bolt
6 3/171	LNC20	1-1/4" UNC Locknut
7	90990	1" Bottom Pin
8	500201	Pipe Clamp TOP 30230 BOT 30230 Nut # 32467
9	B5C1080P	5/8"x5" UNC GR 5 Bolt
10	45185	Top Cylinder Pin
11 3/235	LW16P	1" Lockwasher
12	90133	3" x 16" Hydraulic Cylinder
13 3/128	LNC10	5/8" UNC Lock Nut
14 3/162	NC16P	1" UNC Nut
15 3/240	FW10P	5/8" Flatwasher
16 3/294	UB0848112	3"x7" Clamp
17	45060	Double Hitch Tongue
18	45081	Axle Plate and Spindle
19	45143	Right Fork
	45142	Left Fork
20	801702	Hydraulic Line Clamp
21	45192	Fork Mechanism
22	45087	Bumper

Tub on Cart Installation



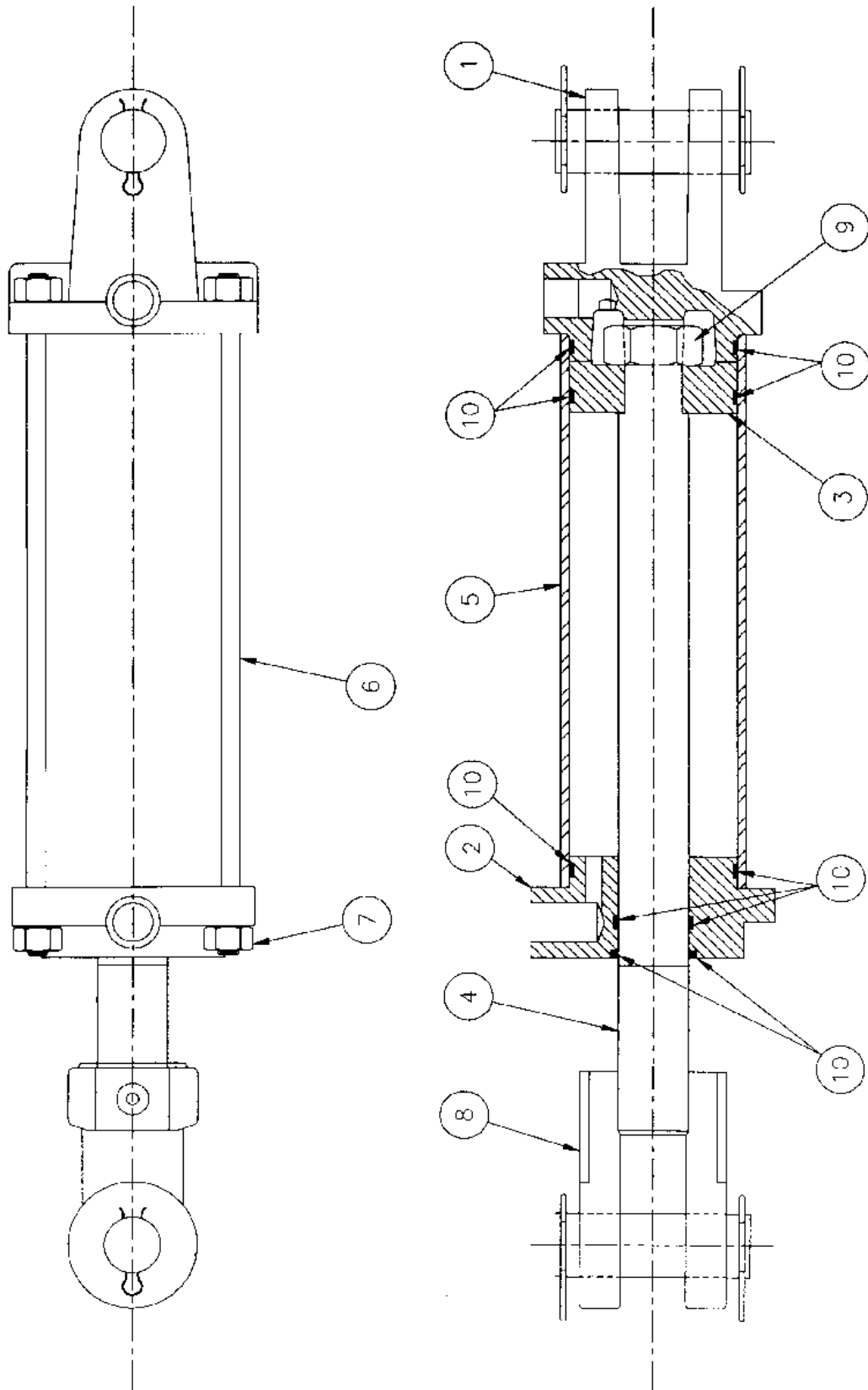
Item No.	Part No.	Description
1 3/016	B5C0824P	1/2"x1-1/2" UNC GR 5 Bolt
2 3/236	FW08P	1/2" Flat Washer
3 3/273	LNC08P	1/2" UNC Locknut
4	92095	5000 lb. x 15" Hitch Jack
5 3/174	B5C0412P	1/4" Locknut
6	92028	Slow Moving Sign
7 3/030	B5C0432P	1/4"x2" UNC GR 5 Bolt
8 3/237	FW04	1/4" Flat Washer
9	500001	Hose Holder 30206 30206

Hydraulic Layout



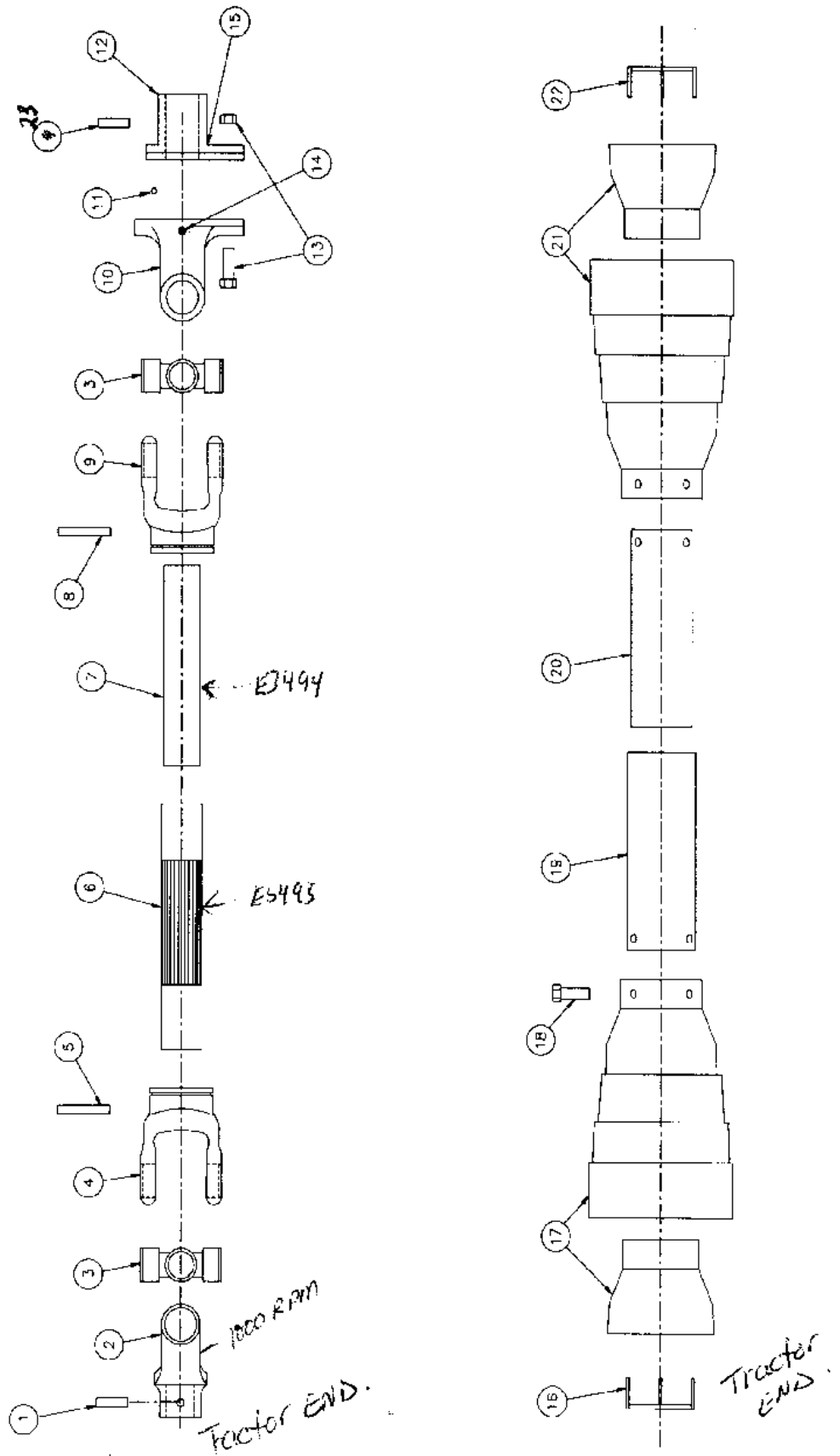
Item No.	Part No.	Description
1	601217	1/2" Pioneer end 30209
2	601003	3/8"x96" 1/2" MNPT - 1/2" MJIC hose 32578
3	90444	1/2"x116-1/2" Steel Lines
4	90333	3/8"x28" 1/2" FJIC 1/2" FJIC hose
5	849FS0808	90 deg. 1/2" MNPT - 1/2" MJIC
6	90133	3" x 16" Hydraulic Cylinder
7	92145	Hydraulic Motor
8	848FS00810	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
16	90332	3/8"x20" 1/2" FJIC 1/2" FJIC hose
17	844FS08	1/2" MJIC - 1/2" MJIC - 1/2" MJIC" Tee

Cylinder Assembly



Item No.	Part No.	Description
1	90991	Clevis Cap
2	90992	Rod Cap
3	90706	Piston
4	90846	1-1/2" Rod
5	90993	Cylinder Tube
6	90994	1/2" Tie Rod
7	90800	1/2" UNF Nut
8	90849	Rod Clevis
9	90722	1-14 UNS Nut
10	90676	Seal Kit
NA	90133	3"x16" 1-1/2" Rod Cylinder Complete

PTO Assembly

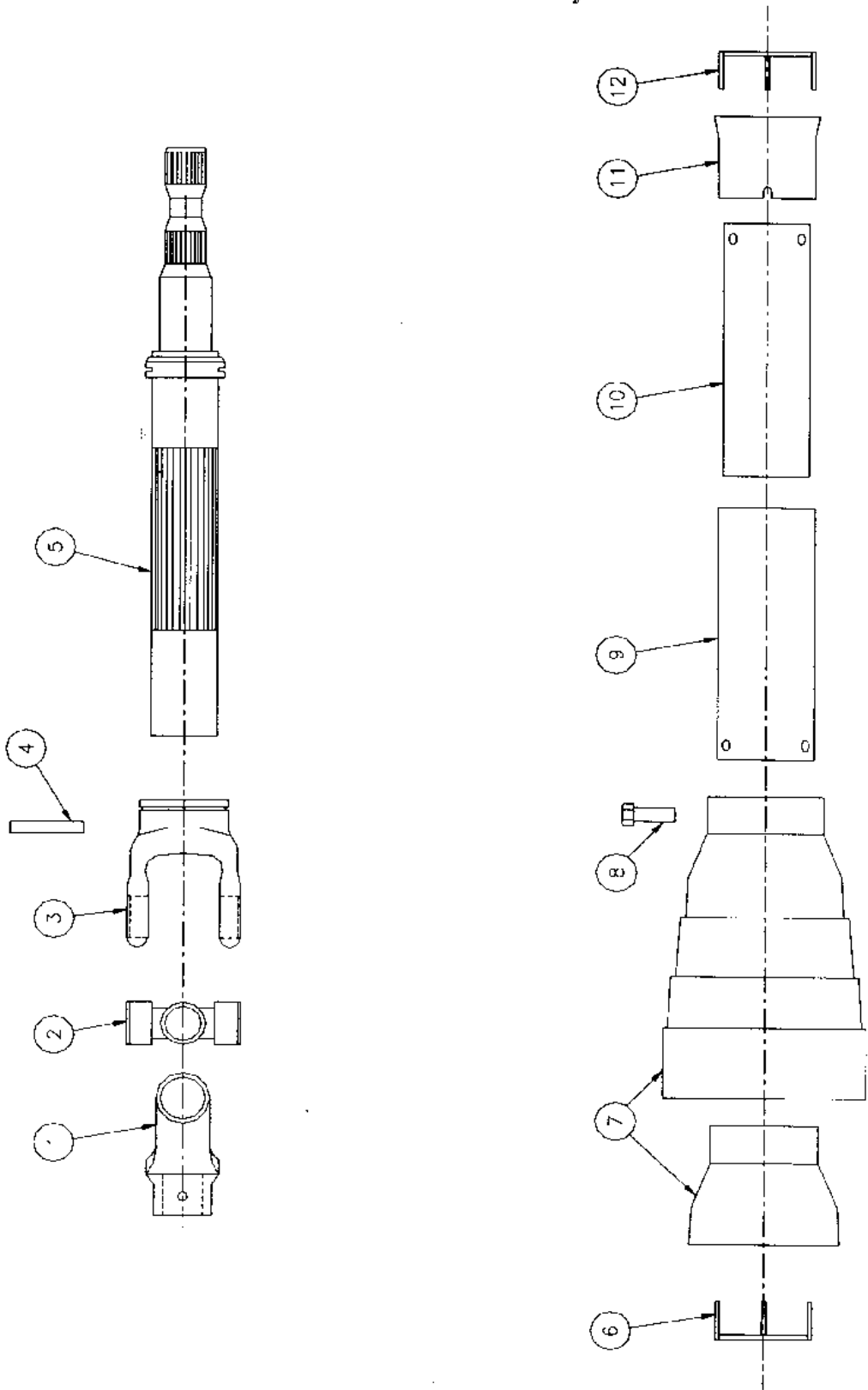


Complete PTO
32906 OR 901161

Item No.	Part No.	Description
1	901123	Push Pin Set 1-3/8" 32868
2	901152	Push Pin Yoke 113 52897
3	901118	Cross Journal Set 32863
4	901119	Outer Yoke 32864
5	901120	Roll Pin for Outer Tube 32865
6	901121	Outer Tube : 32893
7	901122	Inner Tube : 32894
8	901124	Roll Pin for Inner Tube 32869
9	901128	Inner Yoke 32873
10	901162	Yoke for B05 32907
11	901155	Ball 5/16" 24 Ball 32900
12	901158	Hub B05 32903
13	901148	Bolt M10x60 cl.8.8 & Nut 32894
14	901156	Grease Nipple 32901
15	901159	Complete Shear Bolt B05 32904
16	901136	Guard Retaining Collar for Outer Tube 32887
17	901163	Cone for Outer Tube 32908
18	901137	Bolt 32892
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 32885
23	901173	Push pin set 1-3/4" 32917

24 32866 DRU TUBE OUTER, EG 160700, SM.
25 32867 DRU TUBE INNER, EG 150750 312

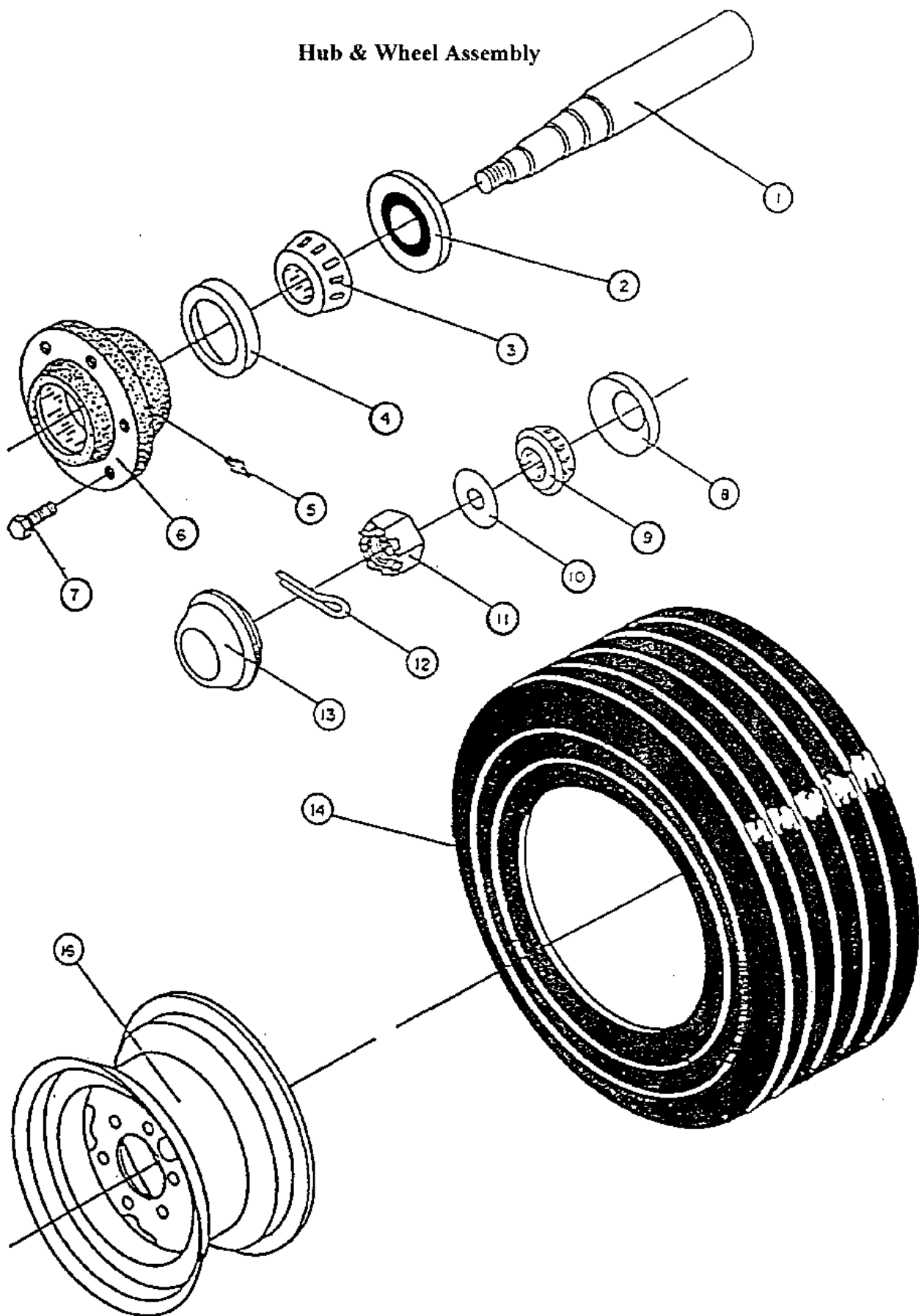
PTO Extension Assembly



*Complete Extension
30130*

Item No.	Part No.	Description
1	901147	1-3/4" Keyed 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 32891
7	901169	Extended Cone for Outer Tube 32913
8	901137	Bolt 32892
9	901170	Outer Shield 32914
10	901171	Inner Shield 32915
11	901172	Centering Ring 32916
12	901143	Guard Retaining Collar for Inner Tube 32896

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	II614 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 15L WITH BEARINGS 49328

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.

2 CYLINDER KIT

1-	90103	RETAIL 234.73 ea
2-	90333	11.50 ea
2-	90332	9.70
2-	90444	16.35
2-	844FS08	5.58
2-	E3234	16.00
4-	E3248	.25
2-	849FS0808	5.63
4-	E-2065	4.55
2-	45184	11.85
2-	45185	11.85
		#430.85