

# balzer

## LIQUID MANURE SPREADERS

### SLURRY TANK MODELS 2250 THROUGH 4800



# balzer

mfg  
corp

highway 60 east  
mountain lake, mn. 56159  
phone (507) 427-3133

## "Where Quality and Economy Meet"





## **OBSERVE AND FOLLOW ALL SAFETY PROCEDURES TO PREVENT PERSONAL INJURY OR DAMAGE TO THE MACHINE.**

1. When agitating a pit always be sure there is adequate ventilation in the confinement area.
2. Never enter a pit unless it is absolutely necessary. If a unit must be entered, take proper safety precautions. These include someone at the site, outside the unit and proper life support system. Contact your BALZER dealer for more information before you enter a tank,
3. Avoid excessive road speed.
4. Never operate this unit until user is familiar with all controls, and has read and understands operators manual.
5. Read and follow the instructions on all decals.
6. Never lubricate, adjust or repair unit while it is in operation. Power unit engine must be shut off and all movement stopped.
7. Never operate this unit with any guards or shields not in place. Replace any missing or damaged ones.
8. Keep hands and feet away from all moving parts.
9. Never wear loose clothing while working around moving parts.
10. Never leave unit running unattended.
11. Before loading make sure that the unit does not have any foreign objects or material in it that can cause equipment damage or personal injury.
12. Never allow anyone to ride on the unit at anytime.
13. Be sure the rear of the unit has a clean SMV emblem properly displayed if towing less than 25 MPH on any public roadway. At night proper warning and running lights are necessary as required by state laws.
14. Always use a safety chain between the towing vehicle and tank on public roadways.
15. Hydraulic fluid pressure can be very dangerous and can cause serious personal injury and death. Be sure to relieve all pressure before disconnecting hydraulic lines.
16. Hydraulic fluid escaping from a very small hole can be almost invisible. Use a piece of cardboard or wood, not your hands, to search for leaks.
17. If injured by escaping hydraulic fluid, seek medical attention immediately. Serious infection or reaction may develop.
18. Never assume that everybody is as safety conscious as you are.
19. Always use a hitch pin that has a safety clip pin.



## Safety Signs

**WHY** safety signs are important.

Safety signs or decals provide very important information and instructions designed to promote personal safety. They are designed to alert you to dangers and hazards that can be present during operation of this equipment. However, safety sign instruction does no good if it is not read, understood and followed.

**WHEN** safety signs must be replaced.

Safety signs or decals must be kept clean and readable. If they become unreadable for any reason they must be replaced with an identical replacement decal. Safety decals must also be replaced if parts are repaired or replaced with new parts that do not already include the necessary safety decals.

**HOW** to apply safety sign decals.

Surface preparation is very important for safety decals to properly adhere. Grease, oil, and dirt must be removed and the surface must be smooth and dry.

Most decals have a split backing which is meant to be removed from the split outward.

1. Position the decal in the proper location and hold firmly over the largest portion of backing.
2. With one hand holding decal in position, the free hand can carefully roll the loose end over and peel backing outward. When the backing is removed as described and shown in fig. (1), with even and gradual pull, the decal will roll onto the surface smooth and wrinkle free.
3. With the smallest portion of decal attached, the same procedure can be applied to the other half.
4. After the decal is attached in place, use a cloth or soft paper towel to burnish decal onto surface. Work gently from the middle outwards to avoid creating any wrinkles.

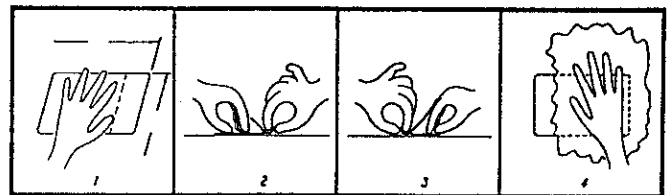


Fig. (1)

**WHERE** to obtain replacements.

Order replacement decals by part number through your nearest dealer. Part numbers are printed on most decals, later in this section and in the parts section of this manual.

# To the Purchaser



This is the safety alert symbol, it is used to alert the operator to an instruction concerning the personal safety and risk factor of this equipment. Always observe and heed these very important instructions to promote a safe operation with good preventive maintenance habits.

This new BALZER product is designed and manufactured to give years of very dependable service when used for the purpose for which it is intended, and when properly maintained.

NEVER OPERATE THIS EQUIPMENT UNTIL USER FULLY UNDERSTANDS THE COMPLETE CONTENTS OF THIS MANUAL. FOR OWNERS WHO DO NOT OPERATE THIS EQUIPMENT, IT IS THE OWNER'S RESPONSIBILITY THAT THE USER IS PROPERLY INSTRUCTED AND IS FULLY AWARE OF THIS MANUAL'S CONTENTS.

This is important in the safe handling of this equipment and promoting an efficient operation. If there are any questions about areas in this manual, it is important to contact your dealer for clarification.

This machine is warranted as stated on the rear outside cover. A registration card is to be filled in by your dealer with your name and address, and promptly returned to the factory. The card provides a ready reference to help you in securing warranty and in answering questions that you may have at some later date.

Operating instructions and parts book are shipped with this machine. If parts of this book are missing or become unreadable, contact your dealer for a new set.

The serial number and identification tag is located on the front of the right tank saddle. Please refer to these numbers when parts or warranty communication is necessary.

## PLEASE FILL IN THE FOLLOWING INFORMATION FOR YOUR RECORDS

DATE OF PURCHASE \_\_\_\_\_

OWNER'S NAME \_\_\_\_\_

DEALER'S NAME \_\_\_\_\_

SERIAL NO./IDENT NO. \_\_\_\_\_

# Operation



## PRE-OPERATION CHECKS AND LUBRICATION

Grease PTO universal joints and telescoping section. Rotate the PTO to make sure the impeller turns freely.

Grease the two bearings, supporting the impeller drivershaft.

Grease the running gear oscillating arm pivot points.

Inspect drain plugs, one under the sump, one in the rear of the impeller housing, make sure they are in place and secure.

Check all hardware, including wheel nuts/bolts, to be sure they are tight.

If the unit has injectors, check the hoses and tubes, for obstructions and breaks in them. If the shipping and storage rods are in place they must be removed.

### CAUTION!!!!!!



Use a jack or hoist to remove the shipping and storage rods, because the tool bar may drop when rods are removed, causing damage or personal injury.

Torque Value Chart

RECOMMENDED TORQUE IN FOOT-POUNDS COARSE AND FINE THREAD		
BOLT MARKING	GRADE 5	GRADE 2
BOLT DIA.	TORQUE	TORQUE
1/4	10	6
5/16	18	10
3/8	39	22
7/16	58	32
1/2	87	44
9/16	111	58
5/8	173	86
3/4	290	152
7/8	500	222
1	620	250

NOTE: Look through the loadport, check the inside of the tank for foreign objects, that may damage impeller. Check the agitation outlet pipe, make sure it is not obstructed. Check tires for proper inflation. (Refer to decal on tank for correct pressure.)

# Operation



## LOADING

Back or drive under the loading spout of the pump. Get the pump spout as close as possible to the center of the loading port to prevent spilling. Place the tractor transmission in park or lock the brakes.

## MOVEMENT TO THE FIELD



Avoid sharp turns when tank is loaded!!!!

Sharp turns cause excessive tire sidewall buckle, reducing tire life, and adds to control difficulty of the tractor.

Excessive speed is very dangerous when the tank is loaded. Remember that in many cases the tank will weigh more than the tractor pulling it. The brake system will help with some control problems, but not in all cases.

## UNLOADING

Injection: The injection method is fast becoming the most popular method of manure application.

To inject, have tractor pulling the unit forward, put the injectors in the ground, start the impeller and open the valve.



### IMPORTANT!!!!

Never try to put injectors into the ground unless the tank is moving forward. Never turn a corner or back up with the injectors down.

The rate of application can be controlled by regulating either the ground speed or the impeller speed.

## INJECTION ADJUSTMENT

There are two things that must be checked and/or adjusted before injectors are put into the ground for the first time. They are injection depth and chisel/sweeps ground engagement angle.

To set the depth, lower the injector tool bar on a firm surface making sure the hydraulic cylinders are fully extended. Next loosen the 1/2 inch clamps holding the gauge wheel tubes and adjust so the bottom of the tire has 2 inches less distance to the ground than the desired injection depth. (I.E. 4 inches clearance between tire bottom and ground equals 6 inches injection depth.)

To check ground engagement angle (sweeps only) with injectors down and cylinders fully extended, sweeps bottoms should be parallel with the ground. If the heel, back of sweep, is contacting ground, remove clevis pin and turn clockwise, shorten the distance between clevis and butt end pins, one or two turns. If the point of the sweep is making ground contact, lengthen the distance between pins, or screw clevis out.

## BROADCAST

Start the impeller and open the valve. The rate of application can be controlled by changing the ground speed, or impeller RPMs.



## **COLD WEATHER OPERATION**

During weather below freezing, extra procedures must be followed.

When tank is going to set long enough for residue manure to freeze, rinse out the tank with water. Remove sump and impeller plug. Run impeller for one minute to be sure the housing is clean. If the injector tubes have manure in them be sure to remove it.

## **STORAGE**

Flush the inside of the tank with water, empty. Remove sump plug and impeller plug, leave out.

Wash manure off of the outside of the tank and trailer. Spot paint areas where it has been removed by manure acid or chipping.

Check for damaged hydraulic hoses, replace any that are not in good condition. Coil the hoses through the hose stand and protect the quick couplers by wrapping them in plastic.

Grease all bearings and seals.



It is the policy of the Balzer Mfg. Corp. to constantly improve its products whenever it is practical to do so.

The Balzer Mfg. Corp. must therefore reserve the right to redesign or change its equipment or component parts thereof without incurring obligation to install or furnish such changes on equipment previously delivered.

## INSTRUCTIONS FOR ORDERING PARTS

1. Order all parts by their part number and name.
2. Parts should never be ordered from item numbers only.
3. Always mention the model and serial numbers found on name plate of unit on which part is to be used. Much delay and confusion can be avoided when correct model and serial numbers are specified on parts order and correspondence.
4. Owners, order all parts through your local dealer.
5. Dealers must indicate how to ship: whether by truck, rail freight, express or parcel post.
6. Collect phone calls will not be accepted.
7. Address all orders for parts as follows:

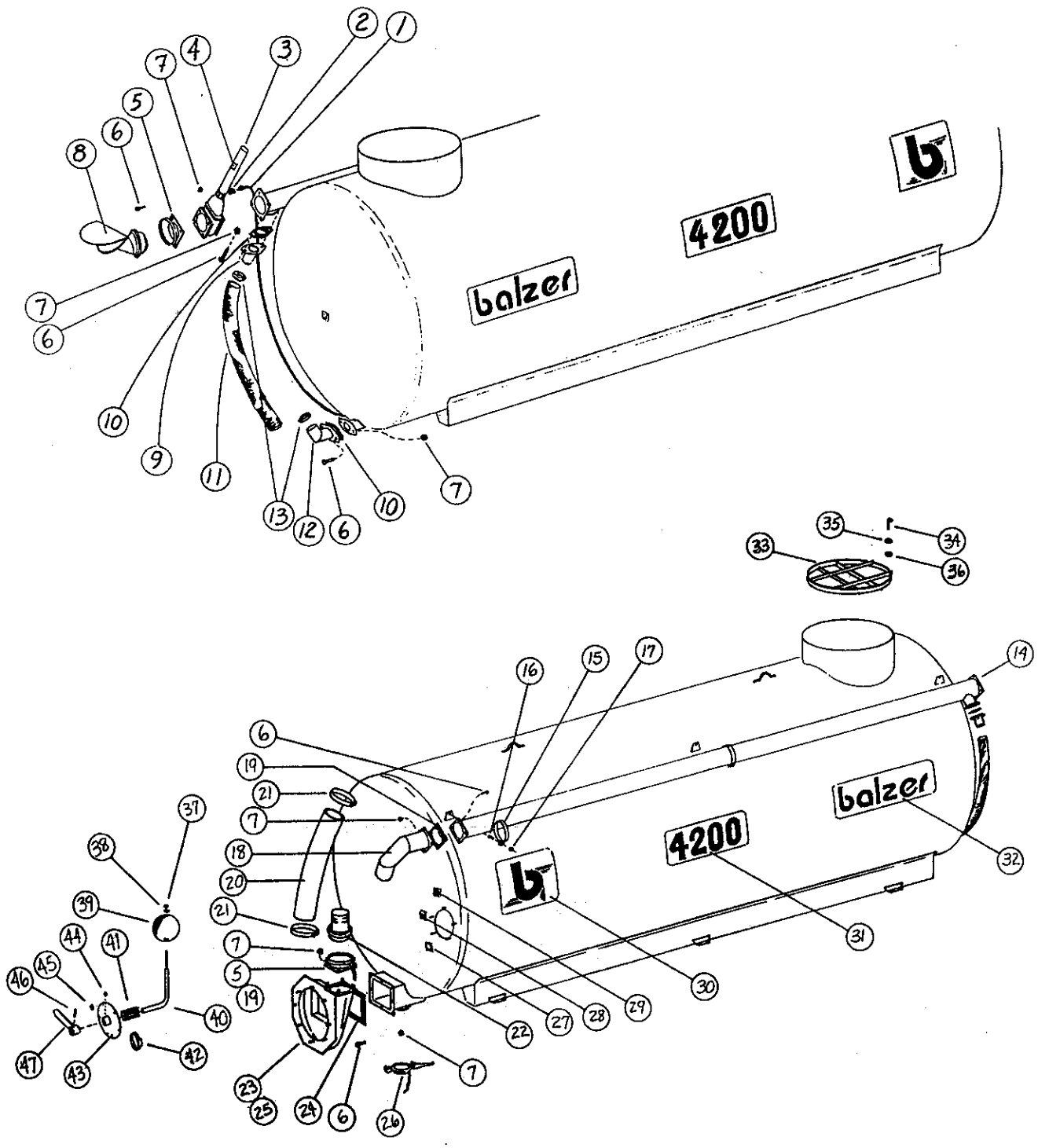
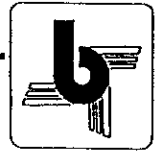
**balzer** mfg  
corp  
highway 60 east  
mountain lake, mn. 56159  
phone (507) 427-3133

## INSTRUCTIONS FOR RETURNING PARTS FOR ADJUSTMENT

1. To assure prompt handling of claims, your dealer or distributor should follow standard claim procedure and forward claim within thirty (30) days of any part failure or malfunction believed to be a warranty claim to the Balzer Mfg. Corp. service department for processing.
2. No returned parts will be accepted unless they are transportation prepaid and accompanied by the packing list copy.
3. Parts returned should have a tag attached with sender's name and address clearly printed.

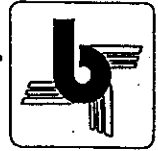


# Common Parts



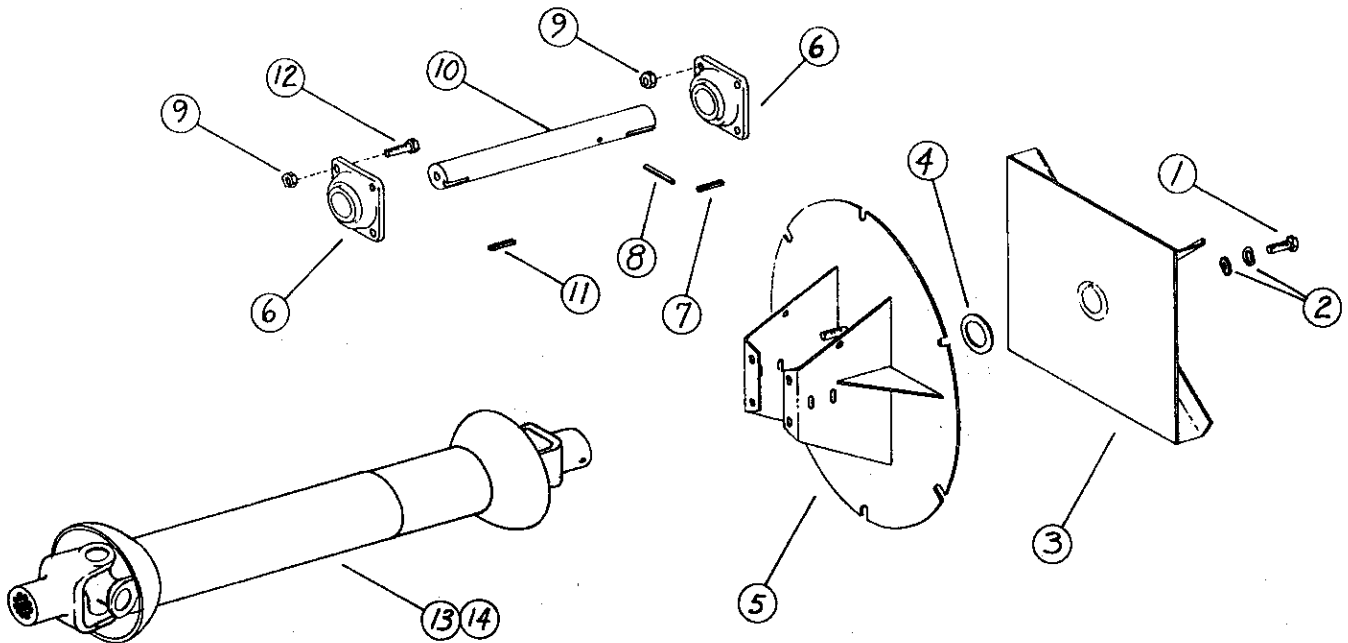
## SLURRY TANKS

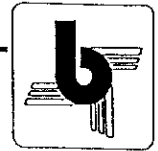
ITEM	P/N	NAME	ITEM	P/N	NAME
1	16870	Hydraulic Hose 1/4 x 110	23	15880	Impeller Housing
	10996	Coupler 1/4	24	16036	Gasket 12" x 12"
	12826	Hydraulic Pipe 1/4 x 168 (2250)	25	15962	Plug 2" Sch 80
	13491	Hydraulic Pipe 1/4 x 210 (3350-4200-4800)	26	16194	Cap & Chain 4"
	11930	Hydraulic Hose 1/4 110 1/2		10913	O-Ring 4"
	15742	Pipe Clamp	27	11038	Decal "Empty"
	15743	Pipe Clamp Cover	28	11630	Decal "1/2"
	1186	Bolt, Hex HD 5/16 x 1 1/4	29	11039	Decal "Full"
2	15686	Red. Bushing M18x1.5K.C.x1/4	30	12284	Decal "Logo" (2250-3350)
3	15678	Valve 6" - Gas/Hydraulic		12285	Decal "Logo" (4200-4800)
4	15694	Decal "Warning"	31	15654	Decal "2250"
	15621	O-Ring, 6" Valve		15653	Decal "3350"
5	15564	Female Coupler, 6" Flanged		15655	Decal "4200"
	11979	O-Ring 6"		17245	Decal "4800"
6	1249	Bolt, Hex HD 1/2 x 1 1/4	32	12288	Decal "Balzer" (2250-3350-4200-4800)
7	2084	Nut, Hex HD 1/2	33	14272	Grate
8	15788	Spray Attachment 4" (std.)	34	14276	"J" Bolt 1/4
	19105	Spray Attachment 5" (opt.)	35	1596	Washer, Flat 1/4
	19246	Spray attachment 6" (opt.)	36	2564	Nut, Hex HD 1/4-20 (Top-lock)
9	15915	Flanged Tube	37	2081	Nut, Hex HD 5/16
10	15625	Gasket	38	1597	Washer 5/16
11	15878	Hose 3" x 82" (2250)	39	17024	Ball 6" Stainless
	15916	Hose 3" x 90" (3350)	40	11905	Float Level
	16011	Hose 3" x 98" (4200)	41	10952	Seal Hose
	15908	Hose 3" x 106" (4800)	42	10912	Clamp, Hose 2"
12	15911	Flanged Elbow	43	15904	Float Plate
13	15695	Hose Clamp "T" Type (3")	44	2288	Grease Zerk 3/16 Drive-In
14	15939	Discharge Tube 6" (2250)	45	1692	Nut, Hex HD 3/8
	15941	Discharge Tube 6" (3350-4200-4800)	46	1908	Spring Pin 1/4 x 1 1/2
15	15870	Tube Clamp	47	10949	Indicator
16	1189	Bolt, Hex HD 5/16 x 2	48	17207	Decal "Tire Pressure" (N.S.)
17	2081	Nut, Hex HD 5/16		14187	Decal "Danger-Gases" (N.S.)
18	15924	Elbow 6"		11234	Decal "Drawbar Adj." (N.S.)
19	16035	Gasket		10744	Decal "Be Careful" (N.S.)
20	15957	Hose 6" (2250)		8155	Decal "Caution"
	15958	Hose 6" (3350)		11233	Decal "Tighten Wheel Bolts" (Not Shown)
	15959	Hose 6" (4200)			
	15960	Hose 6" (4800)			
21	16009	Hose Clamp "T" Type (6")			
22	16044	Male Connector 6"			



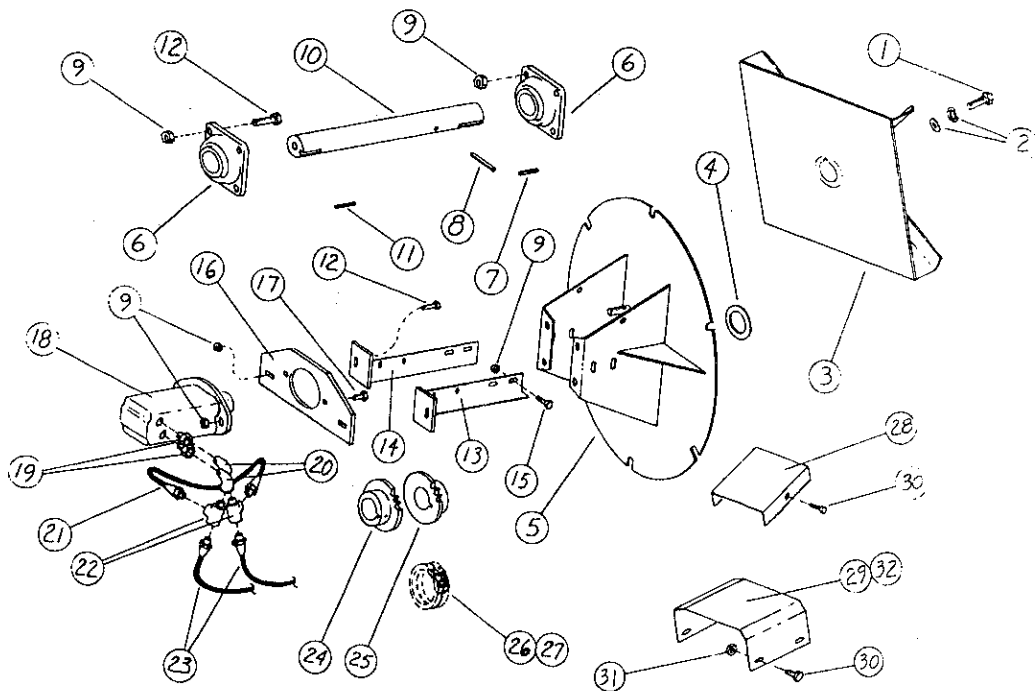
## PTO DRIVE SLURRY

ITEM	PART #	DESCRIPTION
1.	1206	Bolt Hex HD. 3/8 x 1
2.	1598	Washer 3/8
	1636	Lock Washer 3/8
3.	16063	Impeller 14"
	15895	Impeller 16"
4.	1995	Machinery Bushing 1 1/4 N.R.
5.	15888	Cover
	16034	Gasket
6.	15979	Bearing Four Bolt 1 1/4
	15901	Seal Plate
	14360	Seal
	16026	Gasket Seal
7.	2358	Key 1/4 x 1/4 x 2
8.	1908	Roll Pin 1/4 x 1 1/2
9.	2084	Nut Hex HD. 1/2
10.	15899	Impeller Shaft
11.	2352	Key 1/4 x 1/4 x 1 1/4
12.	1250	Bolt Hex HD. 1/2 x 1 1/2
13.	16799	PTO (1000 RPM) 1 3/4-20
	16822	Q.D. Pin Kit
14.	16798	PTO (1000 RPM) 1 3/8-20
	16821	Q.D. Pin Kit

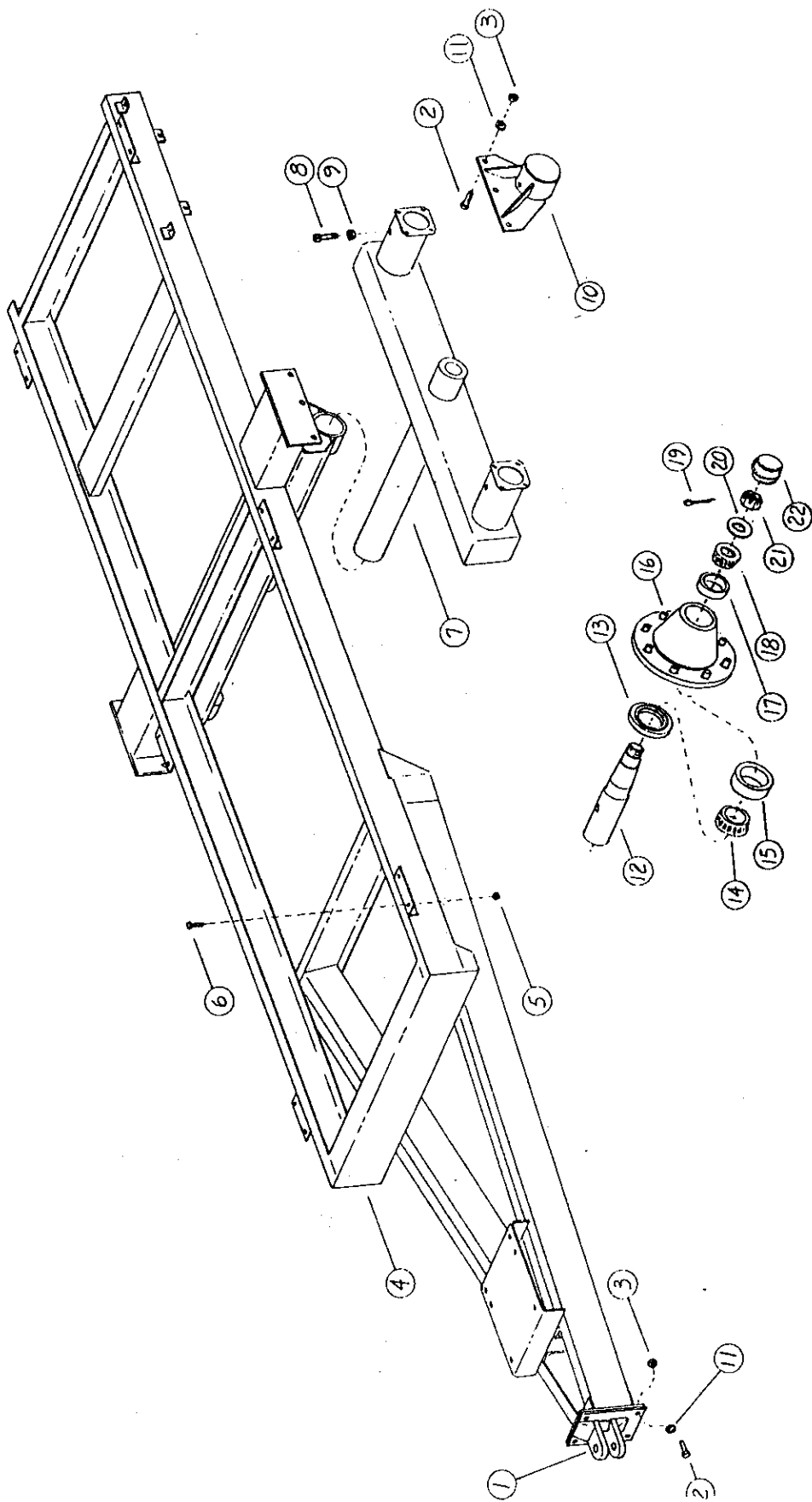




ITEM	PART#	DESCRIPTION
1.	1206	Bolt Hex HD. 3/8 x 1
2.	1598	Washer 3/8
	1636	Lockwasher 3/8
3.	16063	Impeller 14"
	15895	Impeller 16"
4.	1995	Machinery Bushing 1 1/4 N.R.
5.	1588	Cover
	16034	Gasket
6.	15979	Bearing 4 Bolt 1 1/4
	15901	Seal Plate
	14360	Seal
	16026	Gasket Seal
7.	2358	Key 1/4 x 1/4 x2
8.	1908	Roll Pin 1/4 x 1 1/2
9.	2084	Nut Hex HD. 1/2
10.	15899	Impeller Shaft
11.	2352	Key 1/4 x 1/4 x 1 1/4
12.	1250	Bolt Hex HD. 1/2 x 1 1/2
13.	15935	Motor Mount L.H.
14.	15934	Motor Mount R.H.
15.	1248	Bolt Hex HD. 1/2 x 1
16.	15781	Motor Mount
17.	1249	Bolt Hex HD. 1/2 x 1 1/2
18.	15980	Hydraulic Motor
19.	8617	Boss O Ring 1/ 1/16 to 1/2 NPT
20.	8613	Street Elbow 1/2
21.	10034	Hydraulic Hose 1/2 x 18
22.	11543	Service Tee 1/2
23.	11303	Hydraulic Hose 1/2 x 51
24.	15982	Sprocket 1" 50-16
25.	15981	Sprocket 1 1/4 50-16
26.	15984	Double Chain #50 15 Pitch
27.	15985	Double Connector #50
28.	15902	Shield
29.	15986	Shield
30.	1183	Bolt Hex, HD. 5/16 x 3/4
31.	2081	Nut, Hex. HD. 5/16
32.	8155	Decal Caution



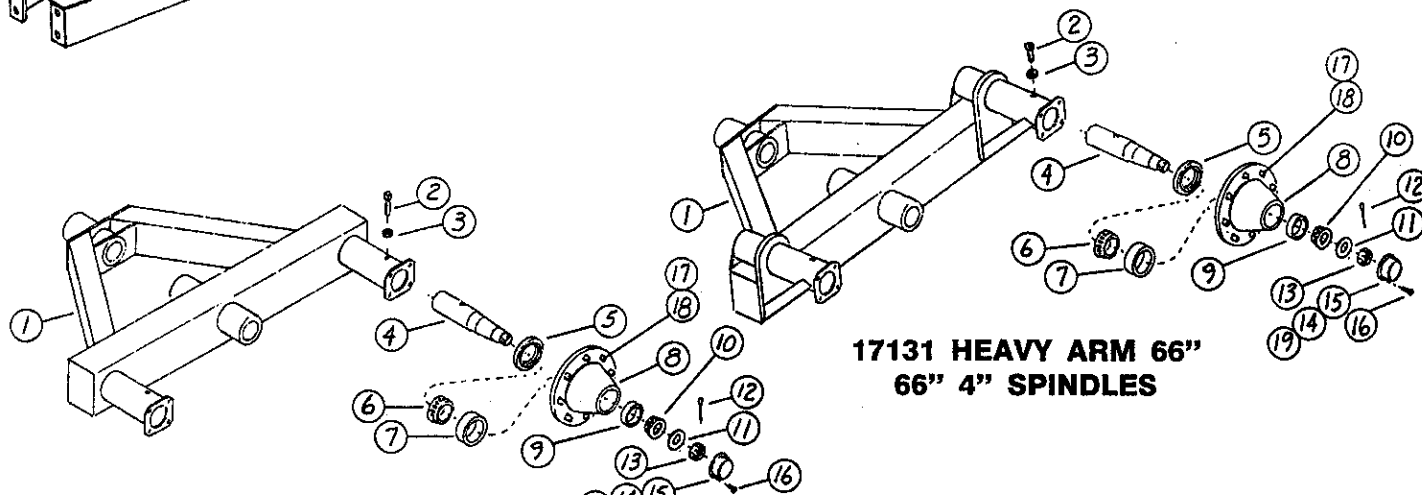
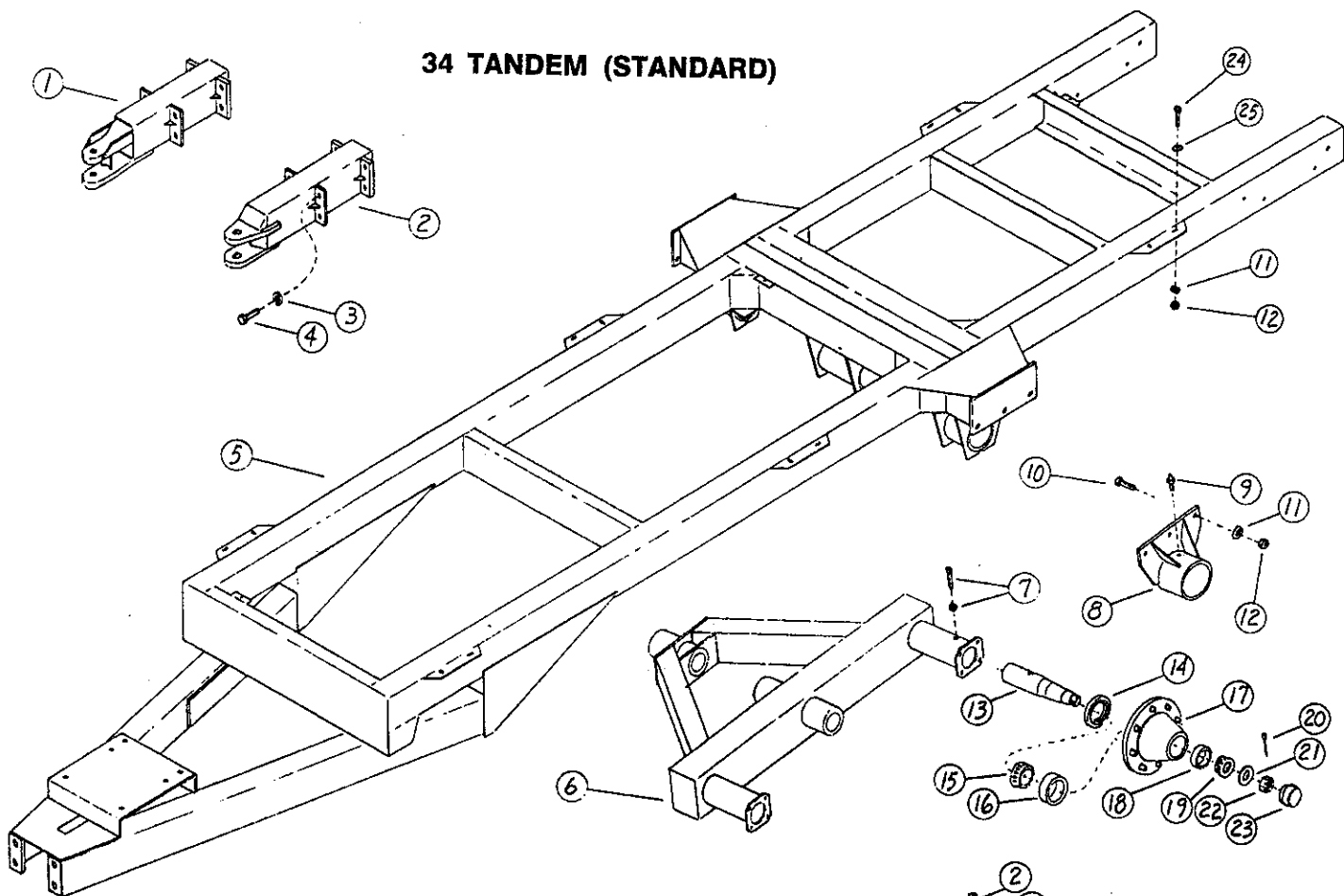
2250 TRAILER



## 2250 TANDEM

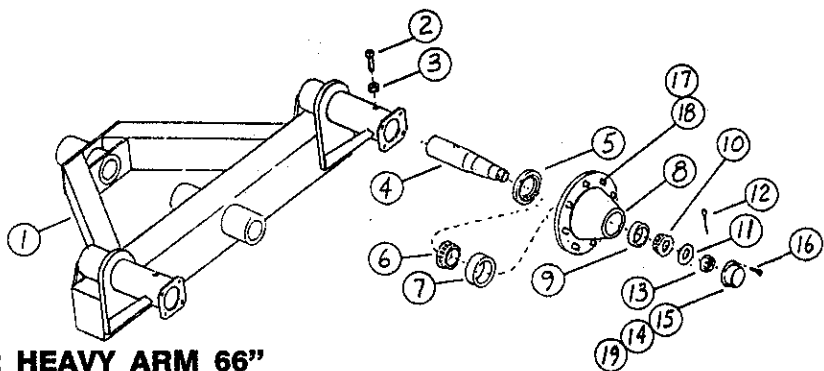
ITEM	P/N	NAME	ITEM	P/N	NAME
1	16900	Hitch	14	13138	Inner Cone
2	1291	Bolt, Hex HD 5/8 x 2	15	13139	Inner Cup
3	1696	Nut, Hex HD 5/8	16	13137	Hub 8-Bolt w/cups
4	16897	Trailer	17	13140	Outer Cone
5	1696	Nut, Hex HD 5/8	18	13141	Outer Cup
6	1289	Bolt, Hex HD 5/8 x 1 1/2	19	2045	Cotter Pin 5/32 x 1 1/2
	1602	Flat Washer 5/8	20	1605	Flat Washer 1"
	1640	Lockwasher 5/8	21	13144	Nut, Hex Castle 1"
7	15576	Tandem Arm	22	13143	Hub Cap w/zerk
8	2513	Set Screw, Sq. HD 3/4 x 2	23	13152	Bolt, Wheel (Not Shown)
9	1697	Nut, Hex HD 3/4	24	13496	Nut, Wheel (Not Shown)
10	11467	Axle Cap	25	15840	Wheel, 14C x 16.1 (Not Shown)
11	1640	Lockwasher 5/8	26	15836	Tire 19L x 16.1 8 Ply (N.S.)
12	16788	Spindle	27	8842	Valve Stem (Not Shown)
13	13142	Seal	28	10629	Trailer Jack (Not Shown)

**34 TANDEM (STANDARD)**



**17131 HEAVY ARM 66"  
66" 4" SPINDLES**

**15508 STANDARD HEAVY  
3" SPINDLES**



**16502 HEAVY ARM 66"  
3" SPINDLE**

### 34 TANDEM (STANDARD)

ITEM P/N	NAME	ITEM P/N	NAME	ITEM P/N	NAME
1 12624	Standard Hitch	11 1640	Lockwasher 5/8	22 14332	Nut, Hex Castle 1 1/4
2 16440	Hitch (Large Pin)	12 1696	Nut, Hex HD 5/8	23 13143	Hub Cap w/Zerk
3 1641	Lockwasher 3/4	13 13154	Spindle 3"	24 1289	Bolt, Hex HD 5/8 X 1 1/2
4 1309	Bolt, Hex HD 3/4 X 1 1/2	14 13151	Seal	25 1602	Flatwasher
5 15488	Main Trailer	15 13150	Inner Cone	26 15534	Wheel W16C X 16.1 (Not Shown)
6 16493	Standard Arm (34)	16 13149	Inner Cup	27 11472	Tire 21.5L X 16.1 (Not Shown)
7 2513	Set Screw, Sq. HD 3/4 X 2	17 13146	Hub 8-Bolt (w/cups)	28 8842	Valve Stem (Not Shown)
1697	Nut, Hex HD 3/4	18 13147	Outer Cup	29 10629	Trailer Jack (Not Shown)
8 11467	Cap Axle	19 13148	Outer Cone		
9 11221	Bolt-Zerk Assy.	20 14333	Cotter Pin 3/16 X 2 1/2		
10 1291	Bolt, Hex HD 5/8 X 2	21 14330	Washer, Flat 1 1/4		

### HEAVY ARM 66" - 3" SPINDLES (16502)

ITEM P/N	NAME	ITEM P/N	NAME	ITEM P/N	NAME
1 16503	Heavy Arm 66" 3" Spindle	10 14327	Outer Cone	19 2286	Zerk 1/4-28
2 2513	Set Screw, Sq. HD 3/4-10 X 2	11 14330	Flat Washer 1 1/4	20 16513	Wheel 20 X 15
3 1697	Nut, Hex HD 3/4-10	12 14333	Cotter Pin 3/16 X 2 1/4	21 16512	Tire 20 X 20 Recap
4 16341	Spindle 3"	13 14332	Nut, Hex Castle 1 1/4-12	22 6995	Valve Stem (Not Shown)
5 14322	Seal	14 14286	Hub Cap	23 16516	Wheel DW 20 X 26
6 14324	Inner Cone	15 14334	Gasket	24 16515	Tire 23L X 26 (New)
7 14325	Inner Cup	16 1183	Bolt, Hex HD 5/16 X 3/8	25 15211	Valve Stem
8 14335	Hub 10-Bolt	17 14326	Wheel Bolt 3/4 X 2 1/2	6993	Tube (For 20 X 20)
9 14328	Outer Cup	18 14329	Nut, Hex, Wheel 3/4	6994	Flat (50 X 20 X 20 Tires)

### HEAVY ARM 66" - 4" SPINDLES (17131)

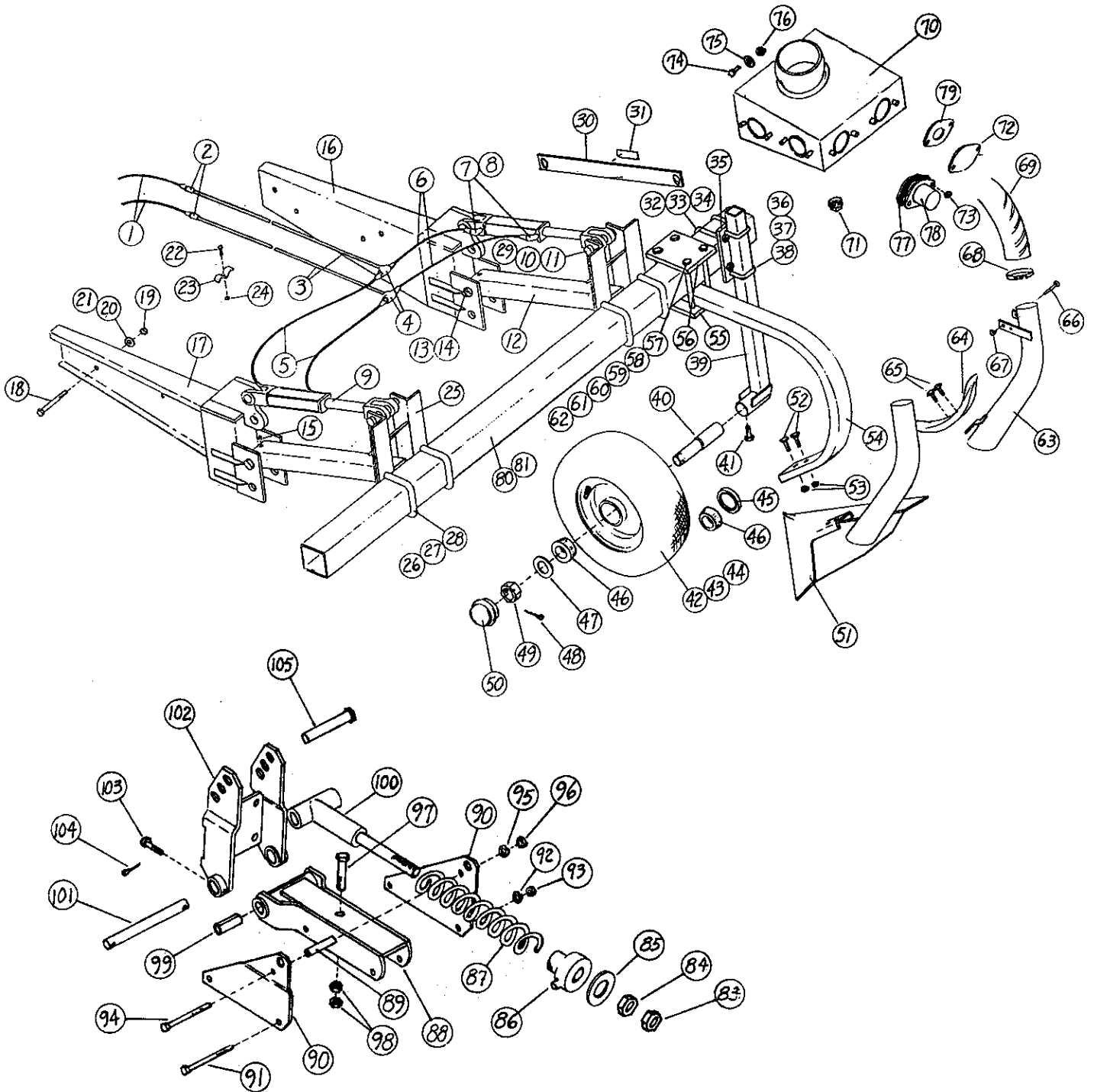
ITEM P/N	NAME	ITEM P/N	NAME	ITEM P/N	NAME
1 17132	Heavy Arm 66" 4" Spindle	10 14324	Outer Cone	19 2286	Zerk 1/2-28
2 2513	Set Screw, Sq. HD 3/4 X 2	11 17142	Flat Washer 1 3/4	20 16513	Wheel 20 X 15 (Not Shown)
3 1697	Nut, Hex HD 3/4-10	12 2074	Cotter Pin 5/16 X 3 1/2	21 16512	Tire 20 X 20 Recap (Not Shown)
4 17141	Spindle 4"	13 17143	Nut, Hex Castle 1 3/4-12	22 6995	Valve Stem (Not Shown)
5 17144	Seal	14 17147	Gasket	23 16516	Wheel DW 20 X 26 (Now Shown)
6 17145	Inner Cone	15 17148	Hub Cap	24 16515	Tire 23L X 26 (New) (Not Shown)
7 17146	Inner Cup	16 1202	Bolt, Hex HD 3/8 X 1/2	25 15211	Valve Stem (Not Shown)
8 17139	Hub 10-Bolt	17 14326	Wheel Bolt 3/4 X 2 1/2	6993	Tube (For 20 X 20)
9 14325	Outer Cup	18 14329	Nut, Hex, Wheel 3/4	6994	Flat (50 X 20 X 20 Tires)

### 34 HEAVY (STD. LENGTH) - 3" SPINDLES (15508)

ITEM P/N	NAME	ITEM P/N	NAME	ITEM P/N	NAME
1 15589	Heavy Arm (Std.) 3" Spindle	12 14333	Cotter Pin 3/16 X 2 1/4	23 15212	Wheel 20.s VF X 20
2 2513	Set Screw, Sq. HD 3/4-10 X 2	13 14332	Nut, Hex Castle 1 1/4-12	24 15210	Tire 48 X 25 X 20 (Used)
3 1697	Nut, Hex HD 3/4-10	14 14334	Gasket	25 16518	Tire 48 X 25 X 20 (Recap)
4 16341	Spindle 3"	15 14286	Hub Cap	26 15999	Tire 48 X 25 X 20 (New)
5 14322	Seal	16 1183	Bolt, Hex HD 5/16 X 3/8	27 16002	Wheel 26.0 VF X 20
6 14324	Inner Cone	17 14326	Wheel Bolt 3/4 X 2 1/2	28 16001	Tire 48 X 31X 20 (Used)
7 14325	Inner Cup	18 14329	Nut, Hex, Wheel 3/4	29 16520	Tire 48 X 31 X 20 (Recap)
8 14335	Hub 10-Bolt	19 2286	Zerk 1/4-28	30 16004	Tire 48 X 31 X 20 (New)
9 14328	Outer Cup	20 14190	Wheel 13.5 X 22.5	31 16513	Wheel 20 X 15
10 14327	Outer Cone	21 14189	Tire 18 X 22.5 (Recap)	32 17208	Tire 49 X 17 (Recap)
11 14330	Flat Washer 1 1/4	22 15211	Valve Stem (Common)	33 17209	Tire 49 X 17 (Used)



# Injectors



**INJECTOR PARTS 2250 SLURRY**

ITEM	P/N	NAME	ITEM	P/N	NAME	ITEM	P/N	NAME
1	11930	Hydraulic Hose 1/4	41	1208	Bolt, Hex HD, 3/8 X 1 1/2	73	1694	Nut, Hex HD 1/2
2	10996	Coupler 1/4	42	16836	Tire 16 X 6.50	74	1249	Bolt, Hex HD 1/2 X 1 1/4
3	12089	Hydraulic Pipe 1/4	43	16837	Wheel & Hub	75	1600	Washer 1/2
4	11043	Tee 1/4	44	12171	Valve Stem	76	2084	Nut, Hex HD 1/2
5	10989	Hydraulic Hose 1/4 X 42	45	16840	Seal	77	15625	Flange Gasket
6	11997	Hydraulic Hose 1/4	46	16838	Bearing Cup	78	13102	Flange
7	11631	St. Elbow 90 1/4		16839	Bearing Cone	79	14469	Choke 1 1/2"
8	9862	Reducer Bushing 3/8 - 1/4	47	16844	Washer 3/4		13155	Choke 2"
9	16240	Hydraulic Cylinder 2 X 8	48	2037	Cotter Pin 1/8 X 1 1/2	80	12081	Injector Bar STD 2 - 4 Knife
10	16315	Linkage Pin 1"	49	16845	Nut, Hex Castle 3/4 - 16	81	11946	Injector Bar 6 Knife
11	11059	Hair Pin Clip	50	16841	Grease Cap	82	15925	Elbow 6"
12	16309	Linkage Tube	51	15643	16" Sweep		11979	O-Ring 6"
13	1350	Bolt, Hex HD, 1 X 6 1/2		15595	20" Sweep		16550	Manifold Hose Assy 2250
14	1779	Locknut 1"		16003	24" Sweep	83	1739	1" Jam Nut
15	2286	Zerk 1/4 - 28	52	2580	Plow Bolt 1/2 X 2	84	1699	1" Hex Nut
16	<del>16244</del>	Injector Mount, R.H.	53	2084	Nut, Hex HD 1/2	85	1623	1" Flat Washer
17	16245	Injector Mount, L.H.	54	11961	Shank	86	17267	Swivel Casting
18	1291	Bolt, Hex HD, 5/8 X 2	55	11960	Mounting Plate, Bottom	87	17268	Shank Spring
19	1696	Nut, Hex HD, 5/8	56	11959	Mounting Plate, Top	88	17270	Shank Cradle
20	1640	Lockwasher 5/8	57	2520	Bolt, Hex HD 3/4 X 7 1/2 GR5	89	17274	Slide Plate Spacer
21	1602	Flatwasher 5/8	58	1697	Nut, Hex HD 3/4	90	17271	Slide Plate R & L
22	1187	Bolt, Hex HD, 5/16 & 1 1/2	59	1641	Lockwasher 3/4	91	1300	Bolt, Hex HD 5/8 X 4 1/2 GR 5
23	8214	Pipe Clasp	60	1330	Bolt, Hex HD 7/8X2 3/4 GR 5	92	1640	Lockwasher 5/8
24	2081	Nut, Hex HD, 5/16	61	1642	Lockwasher 7/8	93	1676	Nut, Hex HD 5/8
25	16313	Tool Bar Mount	62	1698	Nut, Hex HD 7/8	94	1219	Bolt, Hex, HD 3/8 X 4 1/2 GR.
26	16307	Sq. U-Bolt 3/4	63	11963	Injector Tube	95	1636	Lockwasher 3/8
27	1641	Lockwasher 3/4	64	11962	Chisel Spike 7/8 X 2	96	1692	Nut, Hex HD 3/8
28	1697	Nut, Hex HD, 3/4	65	1254	Bolt, Hex HD 1/2X2 1/2 GR 5	97	2583	Bolt, Hex HD 3/4 X 3 GR 8
29	16241	Cylinder Spacer		1600	Washer Flat 1/2	98	1697	Nut, Hex HD 3/4
30	12256	Transport Bracket		1638	Lockwasher 1/2	99	17273	Tension Bushing
31	12863	Decal "Remove Before Using"		1694	Nut, Hex HD 1/2	100	17272	Shank Spring Bolt
32	16388	Sq. U-Bolt 5/8 X 5	66	1505	Bolt, Truss HD 5/16 X 3	101	17276	Shank Pin 1 X 7 1/4
33	1696	Nut, Hex HD, 5/8	67	2475	Nut, Hex HD 5/16 (Top Lock)	102	17269	Shank Bracket
34	1648	Lockwasher 5/8	68	10953	Hose Clasp	103	1822	Clevis Pin 3/8 X 1 1/2
35	16535	Mounting Plate	69	11967	Injector Hose - Center	104	2035	Cotter Pin 1/8 X 1
36	16539	Sq. U-Bolt 1/2 X 3 1/2		11968	Injector Hose - Mid	105	17275	Pin 1 X 4 1/2
37	1694	Nut, Hex HD, 1/2		11969	Injector Hose - Outside	106	16492	Extension Deflector (N.S.)
38	1638	Lockwasher 1/2	70	16484	Manifold			
39	16532	Gauge Wheel Arm	71	11870	Pipe Plug 2"			
40	16847	Spindle	72	13101	Plate, Blank			

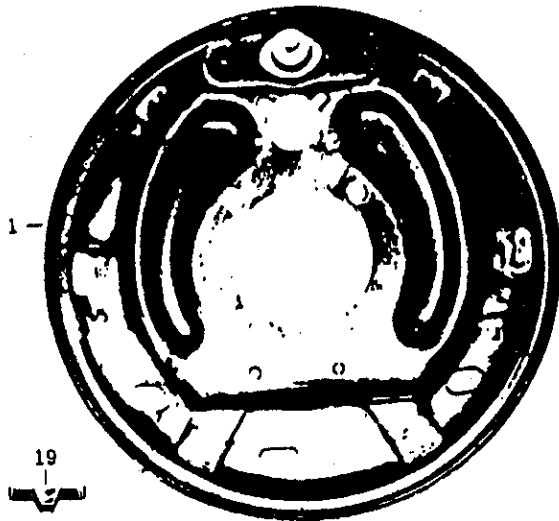
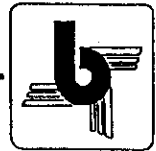
16 244  
16 245

**INJECTOR PARTS 3350 - 4200 - 4300 SLURRY**

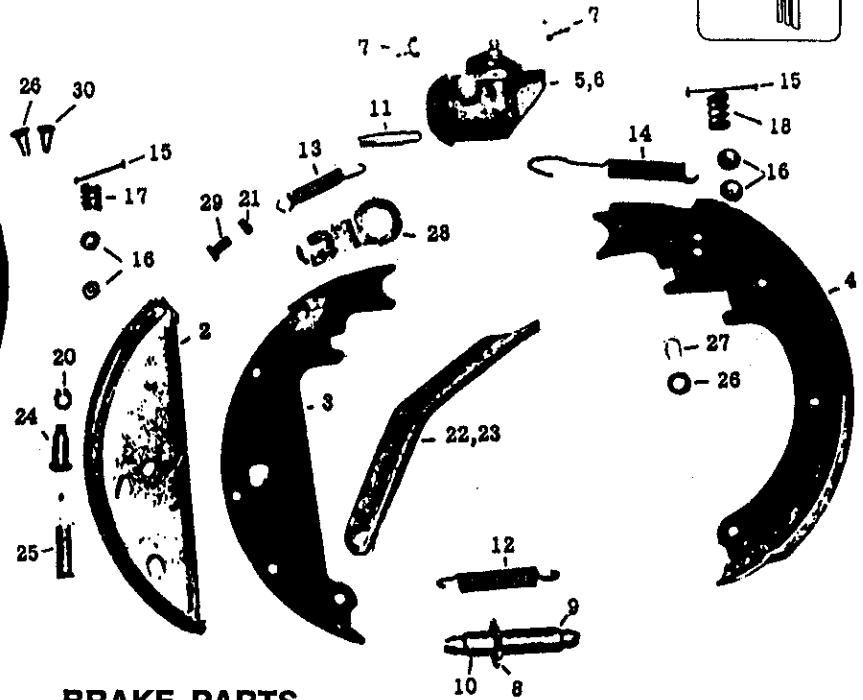
ITEM	P/N	NAME	ITEM	P/N	NAME	ITEM	P/N	NAME
1	11930	Hydraulic Hose 1/4	41	1208	Bolt, Hex HD, 3/8 X 1 1/2	73	1694	Nut, Hex HD 1/2
2	10996	Coupler 1/4	42	16836	Tire 16 X 6.50	74	1249	Bolt, Hex HD 1/2 X 1 1/4
3	12089	Hydraulic Pipe 1/4	43	16837	Wheel & Hub	75	1600	Washer 1/2
4	11043	Tee 1/4	44	12171	Valve Stem	76	2084	Nut, Hex HD 1/2
5	10989	Hydraulic Hose 1/4 X 42	45	16840	Seal	77	15625	Flange Gasket
6	11997	Hydraulic Hose 1/4	46	16838	Bearing Cup	78	13102	Flange
7	11631	St. Elbow 90 1/4		16839	Bearing Cone	79	14469	Choke 1 1/2"
8	9862	Reducer Bushing 3/8 - 1/4	47	16844	Washer 3/4		13155	Choke 2"
9	16240	Hydraulic Cylinder 2 X 8	48	2037	Cotter Pin 1/8 X 1 1/2	80	12081	Injector Bar STD 2 - 4 Knife
10	16315	Linkage Pin 1"	49	16845	Nut, Hex Castle 3/4 - 16	81	11946	Injector Bar 6 Knife
11	11059	Hair Pin Clip	50	16841	Grease Cap	82	15925	Elbow 6"
12	16309	Linkage Tube	51	15643	16" Sweep		11979	O-Ring 6"
13	1350	Bolt, Hex HD, 1 X 6 1/2		15595	20" Sweep		16550	Manifold Hose Assy 2250
14	1779	Locknut 1"		16003	24" Sweep	83	1739	1" Jam Nut
15	2286	Zerk 1/4 - 28	52	2580	Plow Bolt 1/2 X 2	84	1699	1" Hex Nut
16	<del>16244</del>	Injector Mount, R.H.	53	2084	Nut, Hex HD 1/2	85	1623	1" Flat Washer
17	16245	Injector Mount, L.H.	54	11961	Shank	86	17267	Swivel Casting
18	1291	Bolt, Hex HD, 5/8 X 2	55	11960	Mounting Plate, Bottom	87	17268	Shank Spring
19	1696	Nut, Hex HD, 5/8	56	11959	Mounting Plate, Top	88	17270	Shank Cradle
20	1640	Lockwasher 5/8	57	2520	Bolt, Hex HD 3/4 X 7 1/2 GR5	89	17274	Slide Plate Spacer
21	1602	Flatwasher 5/8	58	1697	Nut, Hex HD 3/4	90	17271	Slide Plate R & L
22	1187	Bolt, Hex HD, 5/16 & 1 1/2	59	1641	Lockwasher 3/4	91	1300	Bolt, Hex HD 5/8 X 4 1/2 GR 5
23	8214	Pipe Clasp	60	1330	Bolt, Hex HD 7/8X2 3/4 GR 5	92	1640	Lockwasher 5/8
24	2081	Nut, Hex HD, 5/16	61	1642	Lockwasher 7/8	93	1676	Nut, Hex HD 5/8
25	16313	Tool Bar Mount	62	1698	Nut, Hex HD 7/8	94	1219	Bolt, Hex, HD 3/8 X 4 1/2 GR.
26	16307	Sq. U-Bolt 3/4	63	11963	Injector Tube	95	1636	Lockwasher 3/8
27	1641	Lockwasher 3/4	64	11962	Chisel Spike 7/8 X 2	96	1692	Nut, Hex HD 3/8
28	1697	Nut, Hex HD, 3/4	65	1254	Bolt, Hex HD 1/2X2 1/2 GR 5	97	2583	Bolt, Hex HD 3/4 X 3 GR 8
29	16241	Cylinder Spacer		1600	Washer Flat 1/2	98	1697	Nut, Hex HD 3/4
30	12256	Transport Bracket		1638	Lockwasher 1/2	99	17273	Tension Bushing
31	12863	Decal "Remove Before Using"		1694	Nut, Hex HD 1/2	100	17272	Shank Spring Bolt
32	16388	Sq. U-Bolt 5/8 X 5	66	1505	Bolt, Truss HD 5/16 X 3	101	17276	Shank Pin 1 X 7 1/4
33	1696	Nut, Hex HD, 5/8	67	2475	Nut, Hex HD 5/16 (Top Lock)	102	17269	Shank Bracket
34	1648	Lockwasher 5/8	68	10953	Hose Clasp	103	1822	Clevis Pin 3/8 X 1 1/2
35	16535	Mounting Plate	69	11967	Injector Hose - Center	104	2035	Cotter Pin 1/8 X 1
36	16539	Sq. U-Bolt 1/2 X 3 1/2		11968	Injector Hose - Mid	105	17275	Pin 1 X 4 1/2
37	1694	Nut, Hex HD, 1/2		11969	Injector Hose - Outside	106	16492	Extension Deflector (N.S.)
38	1638	Lockwasher 1/2	70	16484	Manifold			
39	16532	Gauge Wheel Arm	71	11870	Pipe Plug 2"			
40	16847	Spindle	72	13101	Plate, Blank			

OK

# Brake Parts



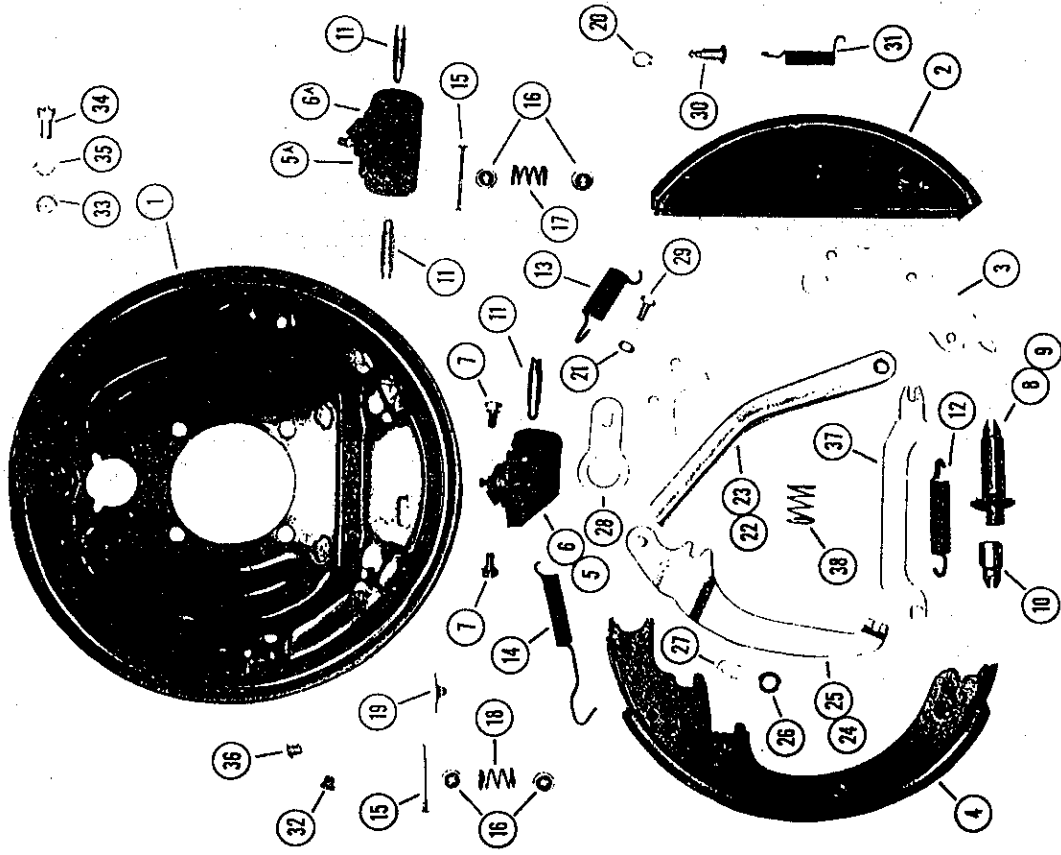
**BRAKE DRUM**  
Standard - 15300  
Heavy - 15301



## BRAKE PARTS

ITEM	QTY	P/N	NAME
1	1	12633	Back Plate Assembly
2	1	12634	F Brake Shoe Assembly
3	1	12635	F Shoe Lever
4	1	12636	R Shoe Assembly
5	1	12637	Wheel Cylinder Assembly - Right
6	1	12638	Wheel Cylinder Assembly - Left
7	2	12639	Screw and Lockwasher
8	1	12640	Adjusting Screw
9	1	12641	Pivot Nut
10	1	12642	Socket - Adjusting Screw
11	1	12643	Push Rod - Wheel Cylinder
12	1	12644	Spring - Adjusting Screw (Yellow)
13	1	12645	Spring - Front Lever (Red)
14	1	12646	Spring - Rear Shoe (Orange)
15	2	12647	Pin - Shoe Hold Down
16	4	12648	Cup - Shoe Hold Down
17	1	12649	Spring - Front Hold Down (Yellow)
18	1	12650	Spring - Rear Hold Down (Black)
19	1	12651	Cover Plate - Adjusting Hole
20	1	12652	Retaining Ring (Truarc)
21	1	2475	Hex-Locknut 5/16" NC
22	1	12659	Travel Link
23	1	1182	Travel Link Bolt-Hex Cap Screw 5/16" NC X 5/8"
24	1	12662	Pin - Front Shoe - Without Park Linkage
25	1	12663	Spring - Front Shoe
26	1	12664	Plug - Plastic
27	4	1704	Hex Nut 1/2" NF Back Plate Mtng. Bolts
28	4	2568	Cap Screw 1/2" NF X 1" (not illus.)
29	4	1638	Lockwasher 1/2" (not illus.)
30	1	12665	Plug - Plastic

13" BRAKE PARTS DIAGRAM



13" BRAKE PARTS LIST

REF. NO.	DICO PART NO.	DESCRIPTION	NO. REQUIRED PER ASSEMBLY	
			BALZER	DUO-SERVO
1	24737	Back Plate Assembly	17276	1
2	9739	F Brake Shoe Assembly	12634	1
3	9745	F Shoe Lever	12635	2
4	9775	R Shoe Assembly	12636	2
5	9776	Wheel Cylinder Assembly - Right		
5-A	18350	Wheel Cylinder Assembly - Right	17278	1
6	9777	Wheel Cylinder Assembly - Left		
6-A	18351	Wheel Cylinder Assembly - Left		1
7	23457	Screw & Lockwasher		2
8 & 9	23324	Adjusting Screw & Pivot Nut		1
10	9782	Socket - Adjusting Screw	12642	1
11	9783	Push Rod - Wheel Cylinder	12643	2
12	9784	Spring Adjusting Screw (Yellow)	12644	1
13	9785	Spring - Front Lever (Red)	12645	2
14	9786	Spring - Rear Shoe (Orange)	12646	2
15	9788	Pin - Shoe Hold Down	12647	2
16	9789	Cup - Shoe Hold Down	12648	4
17	9790	Spring - Front Hold Down (Yellow)	12649	2
18	9791	Spring - Rear Hold Down (Black)	12650	2
19	9254	Cover Plate - Adjusting Hole	12651	1
20	7778	Retaining Ring	12652	1
21	17406	Hex - Locknut 5/16" NC	2475	
22	9731	Toggle Link R	12653	1
23	9732	Toggle Link L	12654	1
24	9792	Parking Lever R	12655	1
25	9793	Parking Lever L	12656	1
26	9794	Spring Washer	12657	1
27	9795	Retainer	12658	1
28	9743	Travel Link	12659	1
29	7949	Travel Link Bolt - Hex Cap Screw 5-16" NC x 5/8"	1182	1
30	9795	Pin-Front Shoe - with Park Linkage	12662	1
30	12560	Pin-Front Shoe - without Park Linkage		
31	6314	Spring - Front Shoe	12663	2
32	9797	Plug - Plastic	12664	2
33	7972	Hex Nut 1/2" NF	1704	4
34	7955	Cap Screw 1/2" NF x 1"	2568	4
35	7937	Lockwasher 1/2"	1638	4
36	9404	Plug - Plastic	12665	1
37	17194	Parking Strut		
38	16090	Spring - Parking Strut	17280	1
XX	15945	Wheel Cylinder Repair Kit - 1 1/8"	17281	1
XX	18349	Cup	17282	2

\*Used on Models with Parking Brake.

Finger Tip Control #15797

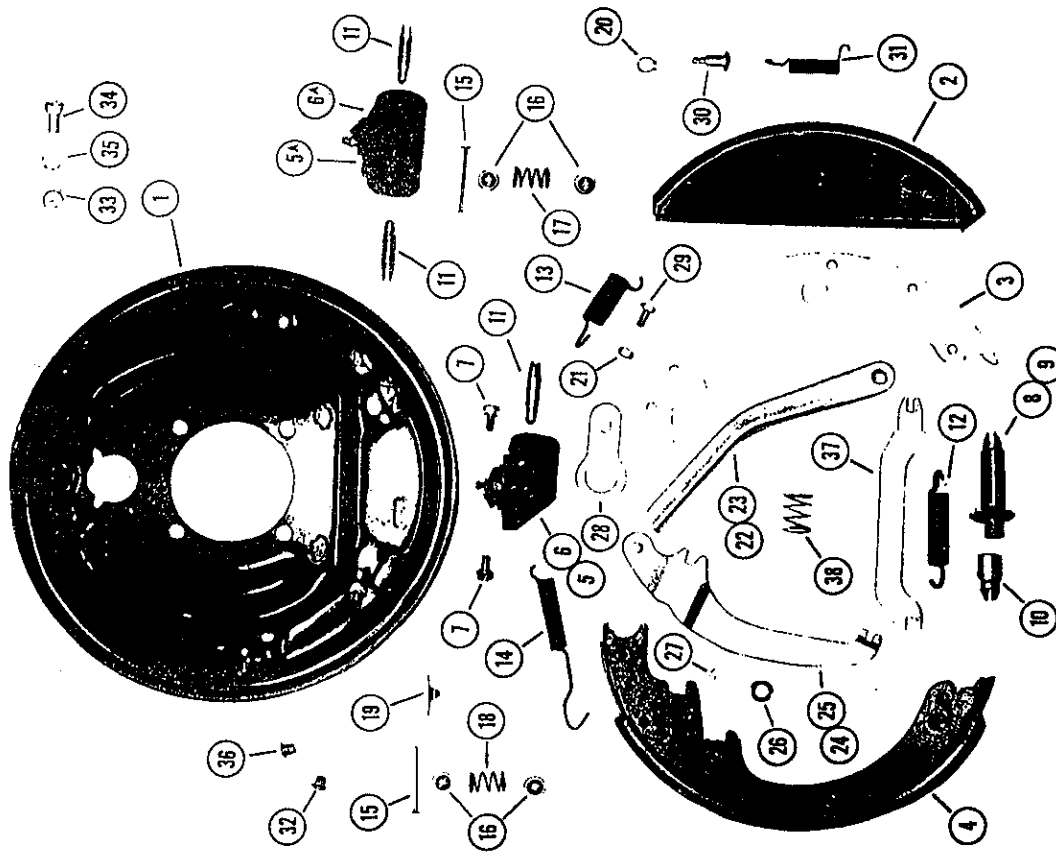
15797 13" Brake LH

13" BRAKE PARTS DIAGRAM

13" BRAKE PARTS LIST

REF. NO.	DICO PART NO.	DESCRIPTION	NO. REQUIRED PER ASSEMBLY	
			BALZER	DUC. SERVO
1	24737	Back Plate Assembly	17276	1
2	9739	F Brake Shoe Assembly	12634	
3	9745	F Shoe Lever	12635	
4	9775	R Shoe Assembly	12636	2
5	9776	Wheel Cylinder Assembly - Right		
5-A	18350	Wheel Cylinder Assembly - Right	17278	1
6	9777	Wheel Cylinder Assembly - Left		
6-A	18351	Wheel Cylinder Assembly - Left		1
7	23457	Screw & Lockwasher		2
8 & 9	23324	Adjusting Screw & Pivot Nut		1
10	9782	Socket - Adjusting Screw	12642	1
11	9783	Push Rod - Wheel Cylinder	12643	2
12	9784	Spring Adjusting Screw (Yellow)	12644	1
13	9785	Spring - Front Lever (Red)	12645	
14	9786	Spring - Rear Shoe (Orange)	12646	2
15	9788	Pin - Shoe Hold Down	12647	2
16	9789	Cup - Shoe Hold Down	12648	4
17	9790	Spring - Front Hold Down (Yellow)	12649	
18	9791	Spring - Rear Hold Down (Black)	12650	2
19	9254	Cover Plate - Adjusting Hole	12651	1
20	7778	Retaining Ring	12652	
21	17406	Hex - Locknut 5/16" NC	2475	
22	9731	Toggle Link R	12653	
23	9732	Toggle Link L	12654	
24	9792	Parking Lever R	12655	
25	9793	Parking Lever L	12656	
26	9794	Spring Washer	12657	
27	9795	Retainer	12658	
28	9743	Travel Link	12659	
29	7949	Travel Link Bolt - Hex Cap Screw 5-16" NC x 5/3"	1182	
30	9795	Pin-Front Shoe - with Park Linkage	12662	
30	12560	Pin-Front Shoe - without Park Linkage		
31	6314	Spring - Front Shoe	12663	
32	9797	Plug - Plastic	12664	2
33	7972	Hex Nut 1/2" NF	1704	4
34	7955	Cap Screw 1/2" NF x 1"	2568	4
35	7937	Lockwasher 1/2"	1638	4
36	9404	Plug - Plastic	12665	
37	17194	Parking Strut		
38	16090	Spring - Parking Strut	17280	
XX	15845	Wheel Cylinder Repair Kit - 1 1/8"	17281	1
XX	18349	Cup	17282	2

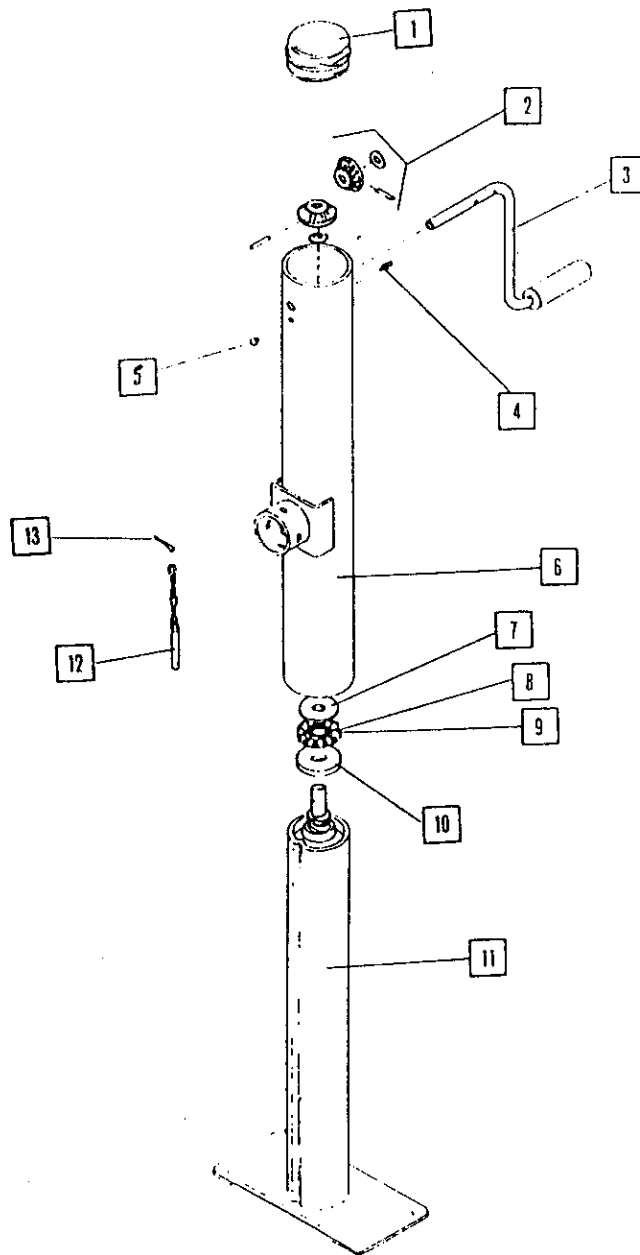
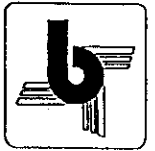
\*Used on Models with Parking Brake.



Finger Tip Control  
#15796

15796 13" Brake RH

# Jack #10629



ITEM	QTY	P/N	DESCRIPTION
1	1	13047	SW Tube Cap
2	1	13046	Bevel Gear Kit
3	1	13045	Crank Assembly
4	1	2288	Zerk 3/16 Drive-In
5	1	13048	Rubber Grommet
6	1	13055	Outer Tube Assembly
7	1	13054	Thrust Washer
8	1	13053	Ball & Cage Bearing
9	1	13052	Felt Spacer
10	1	13051	Support Washer
11	1	13050	Inner Tube Assembly
12	1	13049	Pull Pin & Chain
13	1	13172	Drive Screw

## WARRANTY

### WARRANTY BY MANUFACTURER

Dealer or Distributor understands and agrees that Manufacturer extends only the following Warranty to customers. In the event dealer or Distributor extends any additional warranty (such as by enlarging the scope or period of warranty or undertaking a warranty of merchantability or fitness for any particular purpose) or any other obligation whatsoever. Dealer or Distributor shall: (1) be solely responsible therefor; (2) have no recourse against Manufacturer thereof; and (3) defend, indemnify and hold Manufacturer harmless against any claim or cause of action whatsoever arising out of, or occasioned by, Dealer or Distributor's extension of said additional warranty or obligation.

### CERTIFICATE OF GENERAL EQUIPMENT WARRANTY

"Balzer Mfg. Corp. warrants new Products sold by it to be free from defects in material or workmanship for a period of one (1) year after date of delivery to the first user and subject to the following conditions. Balzer Mfg. Corp's obligation and liability under this Warranty is expressly limited to repairing or replacing at Balzer Mfg. Corp's option, any parts which appear to Balzer Mfg. Corp. upon inspection to have been defective in material or workmanship. Such parts shall be provided at no cost to user, at the business establishment of the authorized Balzer Mfg. Corp. dealer or distributor of the Product during regular working hours. This Warranty shall not apply to component parts or accessories of Products not manufactured by Balzer Mfg. Corp. and which carry the warranty of the manufacturer thereof, or to normal maintenance (such as tune-up) or normal maintenance parts (such as oil filters). Replacement or repair parts installed in the Product covered by this Warranty are warranted only for the remainder of this Warranty as if such parts were original components of said Product. **BALZER MFG. CORP. MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, AND MAKES NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.**

"Balzer Mfg. Corp's. obligation under this Warranty shall not include any transportation charges, cost of installation, duty taxes or any other charges whatsoever, or any liability for direct, indirect, incidental or consequential damage or delay. If requested by Balzer Mfg. Corp. Products or parts for which a warranty claim is made are to be returned transportation prepaid to Balzer Mfg. Corp. Any improper use, including operation after discovery of defective or worn parts, operation beyond rated capacity, substitution or parts not approved by Balzer Mfg. Corp. or any alteration or repair by others in such manner as in Balzer Mfg. Corp's. judgment affects the Product materially and adversely, shall void this Warranty.

**"NO EMPLOYEE OR REPRESENTATIVE IS AUTHORIZED TO CHANGE THIS WARRANTY IN ANY WAY OR GRANT ANY OTHER WARRANTY UNLESS SUCH CHANGE IS MADE IN WRITING AND SIGNED BY AN OFFICER OF BALZER MFG. CORP. AT ITS HOME OFFICE."**

### LIABILITY FOR DELAYS

No liability shall attach to Manufacturer or direct, indirect, incidental, or consequential damages or expenses due to loss, damage, detention of delay in delivery of Products resulting from acts or delays beyond its control.

**balzer** mfg  
corp  
highway 60 east  
mountain lake, mn. 56159  
phone (507) 427-3133

### WARRANTY CLAIMS AND RETURN OF GOODS

1. The dealer shall submit each warranty claim to the company within 30 days after the defective part has been replaced.
2. The dealer shall furnish the Company definite proof of delivery date of the machine to the purchaser prior to the Company's honoring any warranty claim.
3. All parts alleged to be defective under the Company's warranty policy shall be made available for examination by the Company, either at the dealer's place of business or factory of the Company, at the Company's option. If examination is to be made at factory, the part shall be returned to the Company with transportation charge prepaid, only after receipt of the dealer of written shipping instructions from the Company.
4. Goods authorized for return to the factory are to be returned by dealer within 30 days from authorization date. failure to return with the 30-day period will invalidate the warranty claim.

In order to be protected under the terms of the BALZER MANUFACTURING CORPORATION warranty, and to avoid delay in processing warranty claims, the original owner's name and address and the identification numbers of the machine should be registered at the BALZER MANUFACTURING CORPORATION factory within thirty (30) days from the date of purchase. A registration card is furnished with each machine.