

# TABLE OF CONTENTS

## SECTION I

### OPERATION AND SERVICE

Introduction. . . . .	1 - 1	Tongue Adjustment . . . . .	1 - 6
General Information . . . . .	1 - 2	Safety Decals . . . . .	1 - 7
Operation . . . . .	1 - 2	Torque Chart. . . . .	1 - 9

## SECTION II

### MAIN ASSEMBLIES

Front Frame Group . . . . .	2 - 1	Hydraulic Motor . . . . .	2 -13
Conveyor Group. . . . .	2 - 5	Drive Shaft Group . . . . .	2 -15
Rear Frame Group. . . . .	2 - 7	Drive Shaft (Implement) Group .	2 -16
Control Valve Group . . . . .	2 -11	Friction Type Torque Limiter. .	2 -17

## SECTION III

### HYDRAULIC CYLINDERS

Tongue Pivot Cyl. Group . . .	3 - 1	Dump Box Cyl.Group. . . . .	3 - 2
-------------------------------	-------	-----------------------------	-------

## SECTION IV

### HYDRAULIC CIRCUIT

4 - 1 Thru 4 - 2

## SECTION V

### DECALS

5 - 1 Thru 5 - 4

## INDEX

## INTRODUCTION

The ~~Gregory~~ Model 3500 Cruster is designed to work with low profile 540 RPM/PTO tractors, 20 to 45 horsepower. The hydraulic offset tongue allows the operator to position the machine at a minimum distance from the side walls of the chicken house while operating the tractor at a comfortable and safe distance away from low swinging brooders and waterers.

---

### STANDARD FEATURES

1. 540 PTO
2. Category I & II 3-point hitch
3. Gauge wheels
4. Adjustable hydraulic offset tongue
5. Hydraulic dumping trailer

### TO THE PURCHASER:

This new Cruster was carefully designed to give years of dependable service. Proper care and maintenance before, during, and after use will ensure a long life.

This manual has been provided to assist in the safe operation and service of your Cruster.

Familiarize yourself fully with the safety recommendations and operating procedures before putting the machine to use. Carefully read, understand, and follow these recommendations and insist that they be followed by those who work with you.



THIS SAFETY ALERT SYMBOL IDENTIFIES IMPORTANT SAFETY MESSAGES IN THIS MANUAL. WHEN YOU SEE IT, BE ALERT TO THE POSSIBILITY OF PERSONAL INJURY AND CAREFULLY READ THE MESSAGE THAT FOLLOWS.

Record your Cruster serial number. Your dealer requires this information to give you prompt, efficient service when ordering parts or attachments. Service with genuine Gregory replacement parts.

MODEL \_\_\_\_\_

SERIAL NUMBER \_\_\_\_\_

DATE PURCHASED \_\_\_\_\_

### **\*\* IMPORTANT \*\***

NOTE: The safety of the operator is a prime consideration in the design of the Model 3500 Cruster. The user shall be aware of the hazards associated with the use of the machine with deflectors or other safety shields removed.

**SECTION I**  
**OPERATION AND SERVICE**

A CAREFUL OPERATOR IS THE BEST OPERATOR. MOST ACCIDENTS CAN BE AVOIDED BY OBSERVING CERTAIN PRECAUTIONS BEFORE OPERATING THIS CRUSTER. EQUIPMENT SHOULD BE OPERATED ONLY BY THOSE RESPONSIBLE AND INSTRUCTED TO DO SO.

#### THE CRUSTER 3500

1. Read this manual carefully to acquaint yourself with the Cruster. Working with unfamiliar equipment can lead to accidents. Be thoroughly familiar with the controls and proper use of the equipment. Know how to stop the machine and disengage the controls quickly.
2. Keep all shields in place and properly tighten all mounting hardware.
3. Periodically inspect all moving parts for wear and replace with authorized service parts if an excessive amount of wear is present.
4. Replace all missing, illegible, or damaged safety and warning decals. See "Safety Decal Placement" on page 1-9.
5. Do not modify or alter this equipment or any of its components, or any equipment function without first consulting your Gregory dealer or The Gregory Manufacturing Company.
6. Keep safety decals clean of dirt and grime.

#### PREPARATION

1. Before starting, remove any tools from the machine after servicing.
2. Be sure the PTO is in OFF position before starting the engine.
3. Adjust gauge wheel for proper depth.
4. Before operating, thoroughly inspect the area where the equipment is to be used and remove all foreign objects.
5. Clothing worn by the operator should be fairly tight and belted. Loose clothing should not be permitted because of the danger of getting into moving parts.
6. Prolonged exposure to loud noise can cause impairment or loss of hearing. Wear a suitable hearing protection device such as earmuffs or earplugs to protect against objectionable or uncomfortable noises.

#### OPERATING THE CRUSTER 3500

1. Never allow anyone to ride on the Cruster.
2. Clear the area of people and debris before commencing operation.
3. Never allow children to operate equipment. Never allow adults to operate equipment without proper instruction.
4. Do not attempt to lubricate, service, or adjust machine with tractor engine running.
5. Never allow anyone in front of machine.



6. Never leave Cruster dump box in raised position.
7. Never operate the Cruster without good visibility and lighting.
8. Never clean or adjust PTO-driven equipment with the tractor engine running.
9. When operating PTO-driven equipment, always shut the tractor engine off and wait for all movement to stop before getting off the tractor and/or making any repairs, adjustments, or inspections.
10. Take all possible precautions when leaving the machine unattended. Disengage the PTO, lower the blade, shift into neutral, set the parking brake, stop the engine and remove the key.
11. Disengage power to Cruster when transporting or when not in use.
12. The operator should never get off the tractor while it is in motion.
13. Exercise extreme caution when operating. Stay alert for the hidden hazards.
14. Do not put hands or feet near rotating parts. Keep clear of discharge opening at all times.
15. Do not use hands or feet to clear conveyor.
16. Keep a careful watch for debris that could enter the conveyor while operating such as chain, concrete blocks, and boards.
17. Never operate the Cruster without guards, plates, and other protective devices in place.
18. Do not attempt to dump unless free from obstruction around and above Cruster.
19. Use care when backing up.
20. After striking a foreign object, stop the engine, wait for all movement to stop, thoroughly inspect the Cruster for damage, and repair the damage before restarting and operating the Cruster.
21. If the Cruster should start to vibrate abnormally, stop the engine immediately and check for the cause. Vibration is generally a warning of trouble.

#### THE TRACTOR

1. Read the Operator's Manual carefully before using tractor. Lack of operating knowledge can lead to accidents.
2. Do not use the seat belt if the rollbar is removed from the tractor.
3. Use the handholds and step plates when getting on and off the tractor to prevent falls. Keep steps and platforms cleared of mud and debris.
4. Do not permit anyone but the operator to ride on the tractor. There is no safe place for extra riders.

### OPERATING THE TRACTOR

1. Never start the engine while standing beside the tractor. Always sit in the tractor seat while starting the engine or operating controls.
2. Never run the tractor engine in a closed building without adequate ventilation as the exhaust fumes are very dangerous.
3. Always set the hydraulic selector lever in Position Control when attaching equipment, transporting equipment, and when no equipment is attached.
4. Never allow an open flame near the fuel tank or battery.
5. Use a "Slow Moving Vehicle" emblem and the flasher warning lamps when travelling on public roads, day or night, unless prohibited by law in your state.
6. Make sure the PTO shield is installed when using PTO-driven equipment, and always replace the PTO shield if damaged.
7. Always bring the tractor to a complete stop and shut engine off before getting off the tractor.
8. Never park the tractor on a steep incline.
9. Use care when operating on steep grades to maintain proper stability.
10. Keep the tractor in gear when going downhill.
11. Never attempt to clear machine of any obstruction while machine is operating.
12. Always drive the tractor at speed compatible with safety, especially when operating over rough ground, crossing ditches, or when turning.
13. Handle fuel with care as it is highly flammable.
  - a. Use approved fuel container.
  - b. Never add fuel to a running engine or a hot engine.
  - c. Fill fuel tank outdoors with extreme care. Never fill fuel tank indoors.
  - d. Replace fuel cap securely and wipe up spilled fuel.

### MAINTENANCE AND STORAGE

1. Escaping hydraulic/diesel fluid under pressure can penetrate the skin causing serious injury.
  - DO NOT use your hand to check for leaks. Use a piece of cardboard or paper to search for leaks.
  - Stop engine and relieve pressure before connecting or disconnecting hydraulic or diesel lines.
  - Tighten all connections before starting engine or pressurizing lines.
  - If any fluid is injected into the skin, obtain medical attention immediately or gangrene may result.
2. Use AW 32 hydraulic oil. \*\*NOTE: The system capacity is approximately 3 1/2 gallons.

3. Make certain conveyor/drag chain and all moving parts have stopped before cleaning, repairing, or inspecting.
4. Do not run engine indoors
5. Do not attempt to repair or tighten hydraulic hoses when under pressure, when the tractor engine is running, or when the dump box is raised.

The safe operation of this machine is the responsibility of the operator. The operator should be familiar with the tractor and Cruster and all safety practices before starting operation.

IMPORTANT: To avoid damage to the Cruster, retorque all bolts after first 10 hours of operation.

#### PREPARING FOR LITTER REMOVAL

1. Know how to stop the machine and disengage the controls quickly.
2. Make sure the conveyor is clear of objects, such as blocks and boards, before engaging the PTO.
3. Make sure the beater and conveyors operate freely.
4. Check the oil level in the gear box, and if necessary, add API GL-5 SAE 90 gear oil.
5. Check the two shearbolts between the drive pulley and gear box for proper tightness.
6. Wear adequate safety garments while operating equipment.

#### LITTER REMOVAL METHODS



**WARNING:** Do not use hands or feet to clear beater and conveyor. Use a short stick or board. Do not attempt to clear while tractor engine is running. If the conveyor stops, disengage the PTO, shut off the tractor engine, remove the ignition key, wait for all movement to stop, and then clear the litter from the conveyors or drag chain.

#### AFTER OPERATION

1. Shut tractor and machine off before making any repairs, adjustments, or lubrication to any part. Be sure all tools and cleaning materials are removed before resuming operation.
2. Be sure that machine is resting on a secure surface during repairs or if machine is detached. The dump box of the machine should be completely lowered and returned to its operating position directly behind pick-up attachment.
3. After each job is completed, the machine should be prepared and serviced for the next use.
4. Trailer lift should be located in a down position when unattended.
5. Machine should be thoroughly cleaned after each use. We do not recommend this machine to be transferred from farm to farm without a proper sterilization procedure.

## TONGUE ADJUSTMENT FOR PROPER HOOK-UP TO TRACTOR

The hydraulic offset tongue on ROANOKE Model 3500 Cruster is equipped with a series of height adjustments to properly connect with different model tractors.

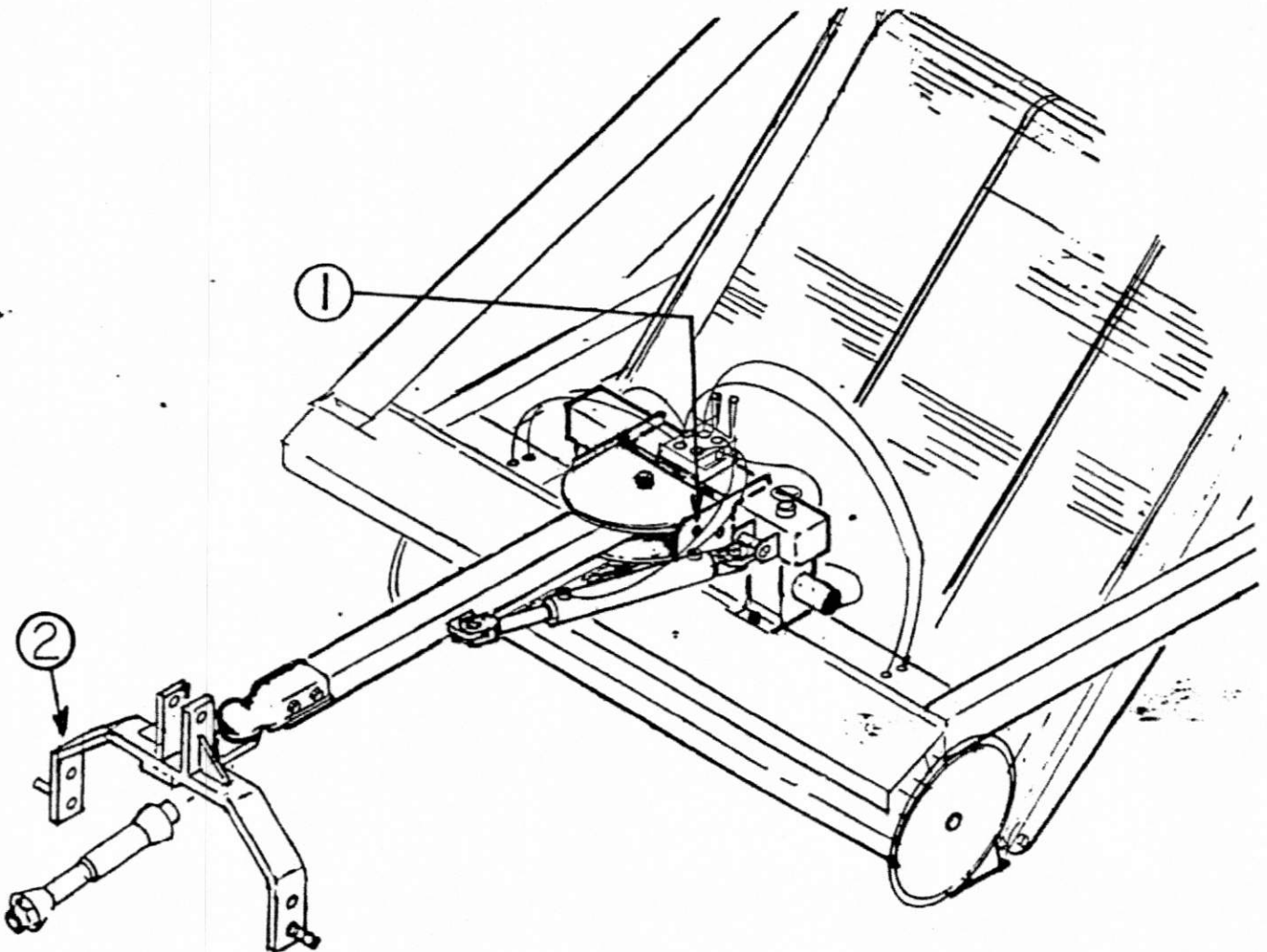
Adjusting the tongue to proper height for your tractor may be done by removing the two 5/8" bolts, one (1) on each side of the tongue bracket. There are three different height positions to adjust the tongue in order to parallel the tongue PTO with the tractor PTO.

The three-point hitch draw bar has two adjustment holes (2) to match up properly with lift arms on the tractor.

Proper connection and adjustment has been completed if hydraulic lift on tractor will clear blade from ground eight to twelve inches.

NOTE: If proper adjustment has not been achieved, the blade may bottom out in low areas inside or outside the chicken house when attempting to move, transport, or operate machine.

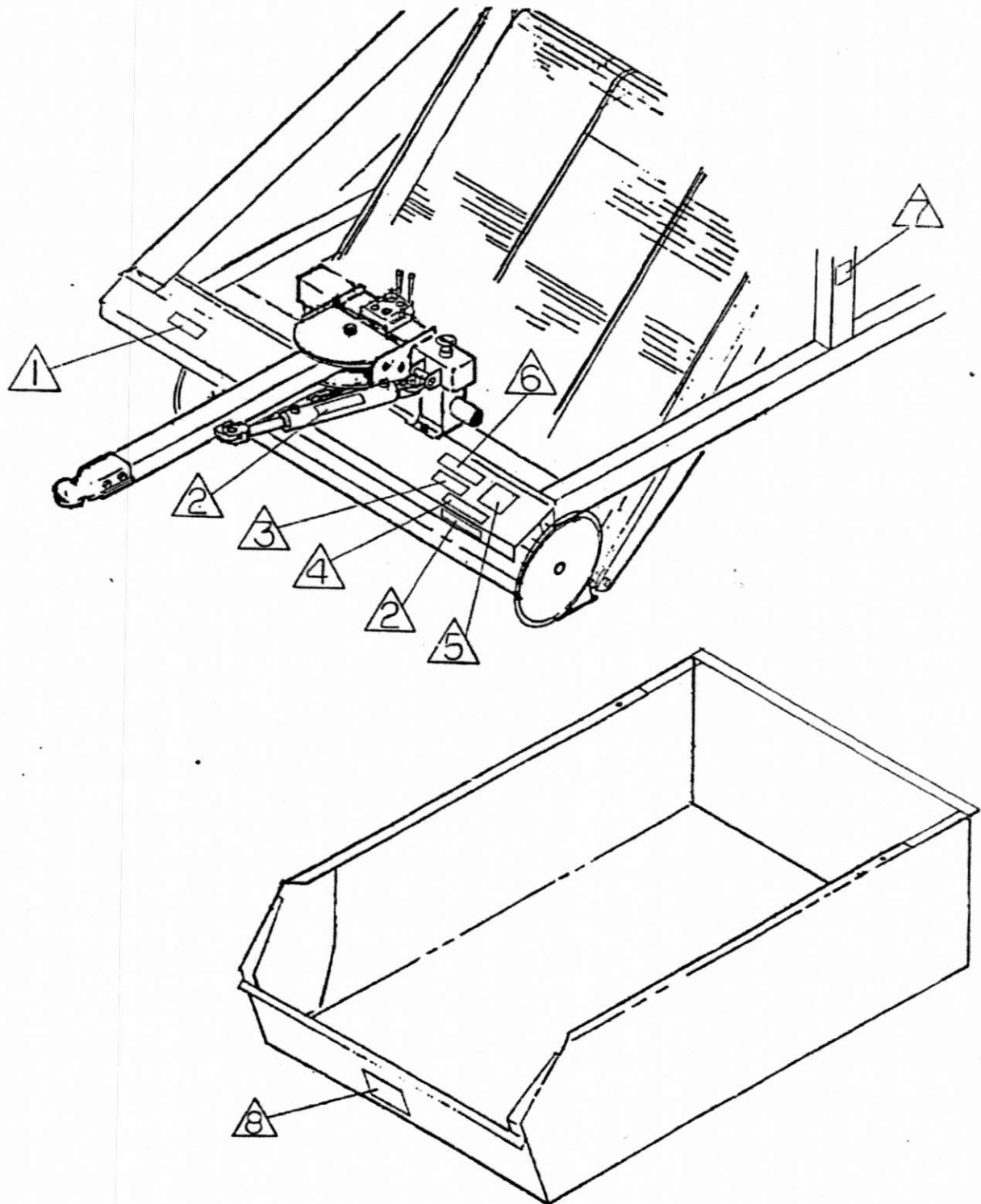
\*After proper tongue adjustment has been obtained, all bolts should be replaced and tightened.



## SAFETY DECALS




ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	36288	Do Not Overspeed	1
2	34833	!Danger!	2
3	43118	Danger - Rotating Blade Hazard	1
4	09664	Caution - Keep Shields in Place	1
5	22696	Caution - 5 Step	1
6	28044	Caution - No Riders	1
7	22685	Caution - Keep Hands Out	1
8	34868	Caution - Power Lines	1

## SAFETY DECAL PLACEMENT



## PROPER TORQUE FOR FASTENERS

The chart lists the correct tightening torque for fasteners. When bolts are to be tightened or replaced, refer to this chart to determine the grade of bolts and the proper torque except when specific torque values are assigned in manual text.

SAE Grade No.	2	5	8
Both head identification marks as per grade. NOTE: Manufacturing Marks Will Vary.			
	No Dashes	3 Radial Dashes	6 Radial Dashes

## RECOMMENDED TORQUE IN FOOT-POUNDS (NEWTON-METERS)

NOTE: These values apply to fasteners as received from supplier, dry or when lubricated with normal engine oil. They do not apply if special graphited or molydisulphide greases or other extreme pressure lubricants are used. This applies to both UNF fine and UNC coarse threads.

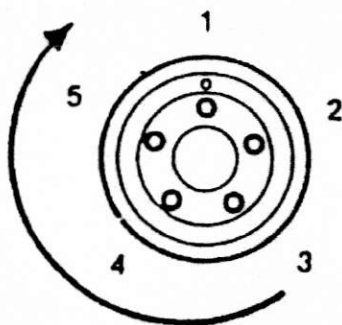
Bolt Diameter Inches	SAE Grade 2	SAE Grade 5	SAE Grade 8
1/4	6 (8)	11 (15)	14 (19)
5/16	13 (18)	21 (28)	25 (34)
3/8	23 (31)	38 (52)	55 (75)
7/16	37 (50)	55 (75)	80 (110)
1/2	57 (77)	85 (115)	120 (165)
9/16	82 (111)	125 (170)	180 (245)
5/8	111 (150)	175 (240)	230 (310)
3/4	200 (270)	300 (410)	440 (600)
7/8	280 (380)	450 (610)	720 (975)
1	350 (475)	680 (924)	1035 (1400)
1 1/8	450 (610)	885 (1200)	

## TORQUING PROCEDURE AND LUG NUTS

Torque describes how tightly the wheel is mounted - how much tension is used to tighten nuts or lug bolts. Too much torque will deform the bolt's boss or conical seat. Too little torque and the wheel may wobble or fall off.

Initially tighten to 12-20 ft. lbs. using a cross tightening sequence (1, 3, 5, 2, 4). Finish torquing to 70-80 ft. lbs. NOTE: Nuts and studs should be clean, dry, and unlubricated.

**RETORQUE AFTER EVERY USE!**



5-Hole Wheels



SECTION II

MAIN ASSEMBLIES

## INTRODUCTION

### MODEL DESIGNATION

This section contains parts ordering information for the (ROANOKE Model 3500 Cruster.

Although great care is employed during the preparation of our Parts Manuals to ensure the accuracy of illustrations and listings, the company cannot be responsible for errors or substitutions, nor for changes made after date of issue.

### IDENTIFICATION OF PARTS

All parts are identified with an item number in the illustration corresponding with a like number in the parts listing. Please read carefully the item number, quantity, part number, and part name to ensure correct parts ordering.

### NOTES AND DESIGNATIONS

Illustrations and/or parts listing may be shown with notes or designations which apply to specific models, or units with serial numbers. Where an illustration and/or parts listing is shown without notes or designations, this indicates the parts listed cover all serial numbered units and models.

### DIRECTIONAL REFERENCE

"R.H." and "L.H." refers to machine's righthand and lefthand (when sitting in the tractor seat).

### PARTS ORDERING INSTRUCTIONS

When ordering parts for a specific unit, always include that unit's model and serial number on your order. Order parts by part number and part name as well as serial number.

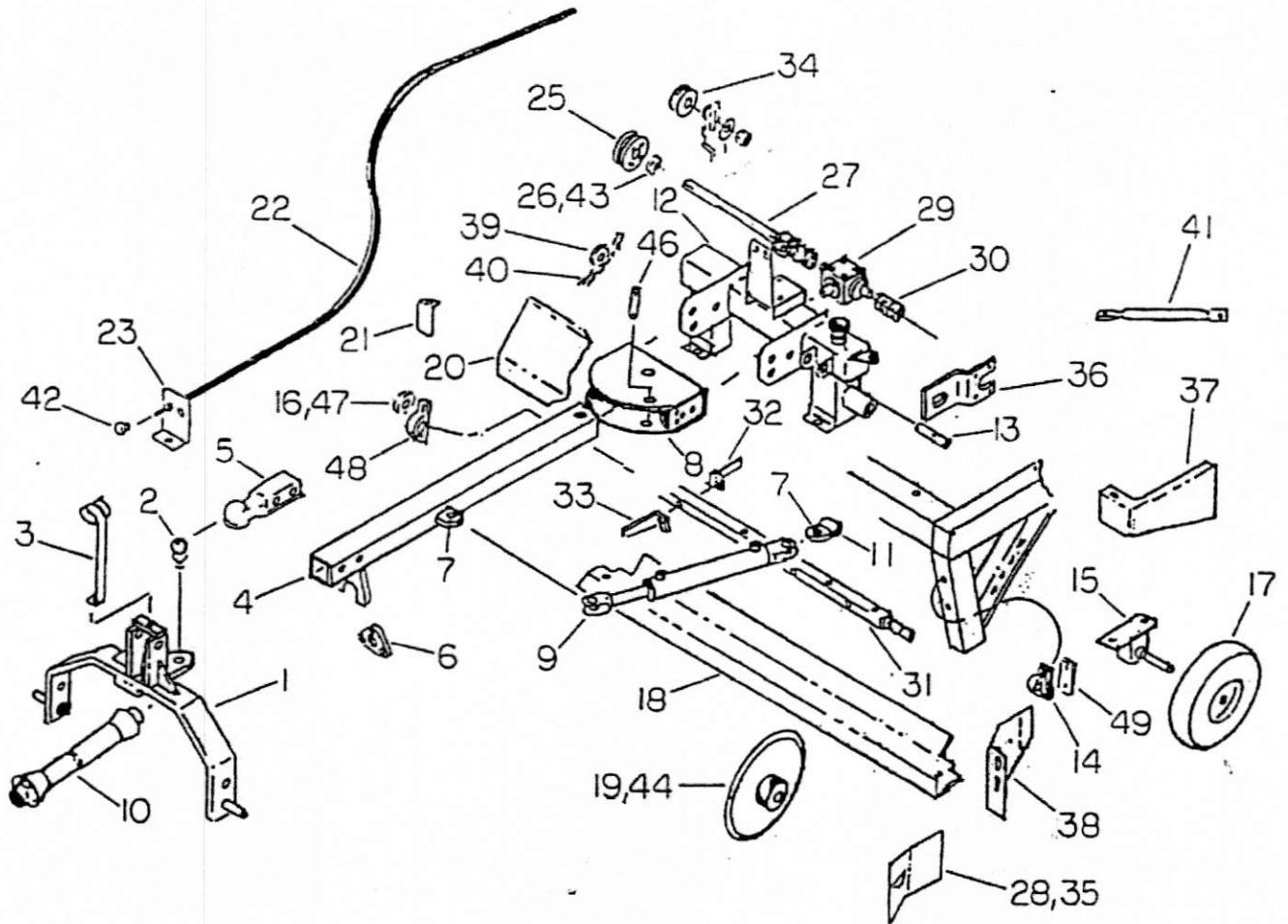
Part numbers and prices subject to change without notice.

Give specific shipping instructions. We want your order to reach you as quickly and as economically as possible.

Contact your ROANOKE dealer for parts and service.

This manual is compiled from information available and current at the time of printing. ROANOKE MANUFACTURING, INC. a North Carolina corporation, reserves the right to improve its product without giving prior notice or incurring obligation.

# FRONT FRAME GROUP



# FRONT FRAME GROUP

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	36136	"A" Frame Weldment	1
- 2	36271	Ball (2")	1
- 3	36285	Support - Cable	1
- 4	36161	Tongue Weldment	1
- 5	36270	Hitch - Tongue	1
- 6	12985	Bearing (3 Hole Flange)	1
- 7	04597	Bushing	2
- 8	35433	Tongue Pivot Weldment	1
- 9	27275	Cylinder - Tongue Pivot	1
- 10	35498	Drive Shaft - Tractor End	1
- 11	35451	Lug Weldment	1
- 12	35437	Tongue Mount/Tank	1
- 13	35482	Pin	1
- 14	25169	Bearing (Pillow Block)	2
- 15	37156	Spindle - Gauge Wheel	2
- 16	37178	Sprocket - Beater	1
- 17	12448	8" Wheel w/Fixed Hub & Tire	2
- 18	36096	Blade	1
- 19	37786	Round Blade Weldment (Colter)	2
- 20	35477	Shield - Beater	1
- 21	36173	Tube Cap (R.H.)	1
- 22	36291	Cable - Control (114")	2
-	23342	Clevis End w/Pin & Cotter	2
- 23	36358	Bracket - Cable (Tractor)	1
- 25	35354	Drive Sheave (8")	1
- 26	37180	Sprocket - Drive	1
- 27	45179	Shaft - Output Drive w/Yokes	1
28	37161	Shield - Blade (R.H.)	1
- 29	36398	Gear Box	1
-	35357	Hex Bolt (12mm)	4
- 30	36663	Coupling - Drive	1
- 31	37194	Tube Weldment - Beater	1
- 32	36946	Beater Bar (R.H.)	19
- 33	36974	Beater Bar (L.H.)	19
- 34	26178	Idler 4114	1
35	37164	Shield - Blade (L.H.)	1
- 36	36664	Mount - Motor	1
-	35460	Bushing	2
- 37	36562	Shield - Left Front	1
- 38	35315	Guide - Conveyor (L.H.)	1
-	35419	Guide - Conveyor (R.H.)	1
- 39	04130	Idler Sprocket (RC60)	1
-	03805	Retainer Nut - Idler	1
- 40	23275	Chain (RC60)	per/ft
-	23443	Connector (RC60)	1
- 41	35466	Brace - Tank	2

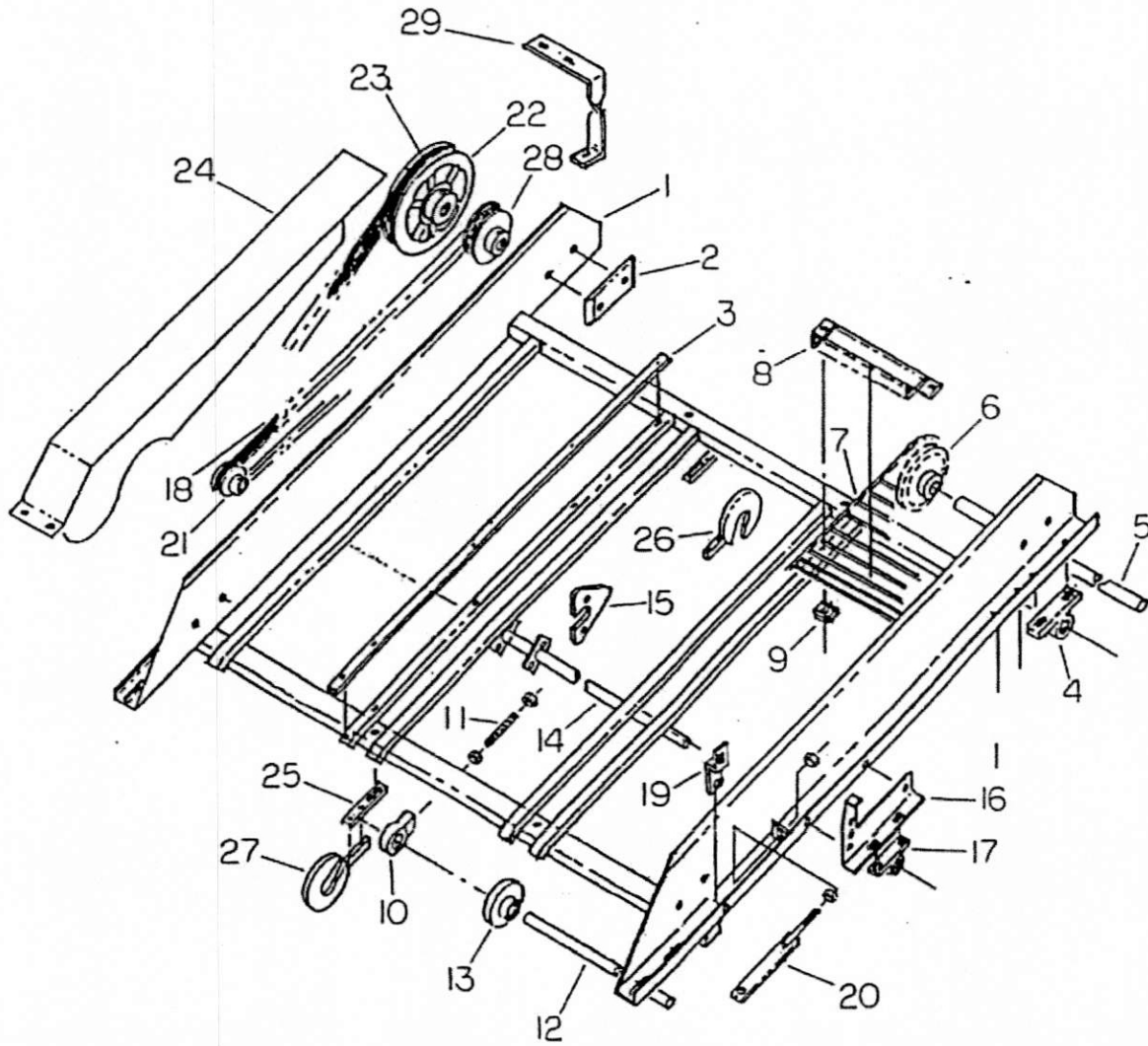
# FRONT FRAME GROUP

ITEM NO.	PART NO.	DESCRIPTION	QTY.
42	36289	Cable End Puller (Black)	1
	36371	Cable End Puller (Red)	1
- 43	37179	Taper Lock - Drive Sprocket (1 3/16)	1
44	37179	Taper Lock - Colter (1 3/16) (R.H.)	1
- 45	37204	Taper Lock - Colter (1 7/16) (L.H.)	1
- 46	37253	Pin	1
47	37204	Taper Lock - Beater (1 7/16)	1
- 48	24496	Bearing (Pillow Block - 1 7/16) (R.H.)	1
- 49	37197	Spacer	1

ITEM 24 INTENTIONALLY OMITTED

**THIS PAGE INTENTIONALLY LEFT BLANK**

# CONVEYOR GROUP



# CONVEYOR GROUP

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	36157	Conveyor Frame Weldment	1
- 2	36277	Guide (Polymer)	4
- 3	35266	Wear Strip	6
- 4	25169	Bearing (Pillow Block)	4
- 5	36146	Shaft (1 3/16)	1
	35352	Key (4 1/2 - Not Shown)	2
	35353	Key (2 - Not Shown)	3
	36449	Key (2 3/4 - Not Shown)	1
- 6	35342	Sprocket	6
- 7	24828	Wire Belting (18 x 134)	3
- 8	35355	Chain Lug	21
- 9	35359	Retainer Clip	46
- 10	36259	Bearing Housing	2
	36235	Bearing	2
- 11	35291	Threaded Rod	2
- 12	35292	Shaft - Lower Conveyor	1
- 13	15151	Roller	6
- 14	36150	Jumper Shaft Weldment	1
- 15	35338	Jumper (Polymer)	6
- 16	36183	Adjustable Bracket (L.H.)	1
	36138	Adjustable Bracket (R.H. - Not Shown)	1
- 17	26634	Bearing Assembly	2
- 18	24127	Belt (5L720)	1
- 19	37230	Bar - Conveyor Hanger	2
- 20	36185	Adj. Rod Weldment - Bearing	2
- 21	35386	Sheave - Jumper Drive	1
- 22	35374	Sheave - Conveyor Drive	1
- 23	24503	Belt (8136)	1
24	36180	Shield Weldment	1
- 25	35907	Bracket (Polymer) - Divider	4
- 26	36140	Divider (Polymer) - Upper	2
- 27	35908	Divider (Polymer) - Lower	2
- 28	36158	Pulley - Jumper	1
- 29	37236	Bracket - Shield	1



2000-2001



# REAR FRAME GROUP

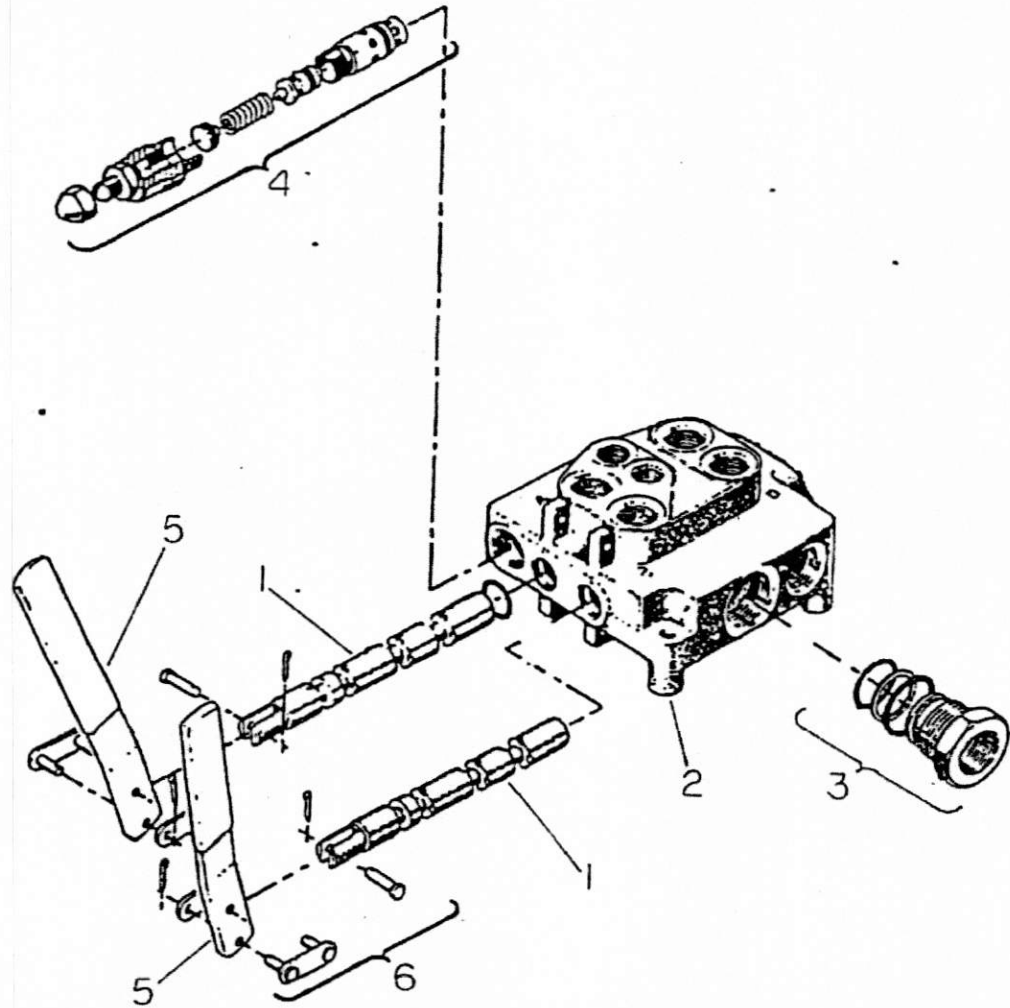
ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	36181	Dump Box Weldment	1
- 2	36098	Tail Gate	1
- 3	35349	Bushing - Tail Gate Pivot	2
- 4	35348	Pivot - Tail Gate (R.H.)	1
- 5	35417	Pivot - Tail Gate (L.H.)	1
- 6	36099	Plate - Sprocket	2
- 7	36084	Bracket (Adjustable)	2
- 8	35319	Tie Bar - Box Pivot	2
- 9	35333	Brace - Rod End	2
- 10	19670	Cylinder - Dump	2
- 11	35350	Spacer - Pivot	2
- 12	37128	Pin - Cylinder	2
- 13	35473	Support Plate - Motor	1
- 14	35461	Plate - Motor	1
- 15	35685	Bracket - Motor Protector	1
- 16	36147	"L" Draw Bolt	2
- 17	06445	Coupling - Motor	1
- 18	24710	Bearing (2 Hole Flange)	2
- 19	35460	Bushing - Mount Plate	1
- 20	04597	Bushing - Box Pivot	4
- 21	35316	Shield (L.H.)	1
-	35416	Shield (R.H. - Not Shown)	1
- 22	36174	Box - Guide (Polymer)	4
- 23	06262	Wear Strip (Polymer)	2
- 24	35317	Shaft - Dump Box Drive	1
- 25	35295	Tie Pipe	1
- 26	35361	Drag Bar (4 Springs)	6
-	35363	Drag Bar (3 Springs - Not Shown)	7
- 27	35383	Spring (Double Torsion)	45
- 28	01041	Clip	45
- 29	35388	Pin w/Thd. End	6
- 30	35366	Idler Sprocket (17 Tooth)	4
-	05111	Bearing (Not Shown)	4
-	23383	Snap Ring (Not Shown)	4
- 31	35722	Drive Sprocket	2
- 32	35721	Idler Sprocket	2
-	05111	Bearing (Not Shown)	2
-	23383	Snap Ring (Not Shown)	2
- 33	35512	Chain (2060 - RH) w/Connecting Link	1
-	43490	Chain (2060 - LH) w/Connecting Link	1
-	35878	Connecting Link (2060)	As Req'd.
- 34	45224	Tire/Rim Kit	2
-	45225	Tire	2
-	45226	Rim	2
-	23362	Air Valve	2
- 35	45227	Hub w/Cups & Studs (5)	2

# REAR FRAME GROUP

ITEM NO.	PART NO.	DESCRIPTION	QTY.
- 36	05091	Lug Stud	8
-	25309	Lug Nut (Not Shown)	8
- 37	06573	Cup	4
- 38	06514	Cone	4
- 39	06515	Seal	4
- 40	35294	Spindle	2
	22221	3/8" x 2" NC Cap Screw (Retainer)	2
	22108	3/8" NC Elastic Lock Nut	2
- 41	06503	Spacer - Spindle	2
- 42	22087	1" NF Hex Jam Nut	4
- 43	22043	1" Flat Washer	4

THIS PAGE INTENTIONALLY LEFT BLANK

# CROSS CONTROL VALVE



# CROSS CONTROL VALVE

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	*	Spool	2
2	*	Valve Body	1
3	36961	Power Beyond Sleeve	1
4	36959	Relief Valve Cartridge	1
5	37017	Handle (Bent)	2
6	36957	Pin Kit	2
	36397	Valve Complete	
	36960	Seal Kit	

\*The select fit honing process at factory, which fits a spool to an individual valve body, eliminates the possibility of ordering the valve body or spool as separate items.

# HYDRAULIC MOTOR

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	05122	Motor Complete	1
2	04306	Screw Flange Cap	4
3	17198	Plate Mounting - Model 7 (Note 1)	1
4	05348	Plate Mounting - Model 5 (Note 1)	1
5	07557	Race, Bearing	1
6	07552	Thrust Bearing (Note 2)	1
7	22719	Woodruff Key 1/4 x 1	1
8	26908	Output Shaft - Model 7 (Note 1)	1
9	07545	Output Shaft - Model 5 (Note 1)	1
10	07550	Drive	1
11	07553	End Cap	1
12	27937	Complete Seal Kit - Model 7 (Note 3)	1
13	27936	Complete Seal Kit - Model 5 (Note 3)	1
	20051	Seal Kit - Flange - Model 5 & 7 (Note 3)	1
		Seal Dust - Model 5 (Note 4)	1
		Washer (Teflon) - Model 5 (Note 4)	1
		Seal - Quad-Ring - Model 5 (Note 4)	1
		Seal - O-Ring - Model 5 & 7 (Note 4)	1
		Seal - Dust - Model 7 (Note 4)	1
		Seal - Shaft - Model 7 (Note 4)	1

Note 1. Determine which model of motor for ordering correct parts. Model 5 is the straight shaft motor and Model 7 is the motor with the 1 1/8" step in it. Can only be seen after the end cap is removed. For Determining motor by tag number, last digit identifies the model. If no tag has ever been on motor, it is a model 5.

Note 2. On the Model 5 motor, two (2) thrust bearings are used.

Note 3. Seal kit 20051 is recommended for most dealer replacement.

Seal kits 27937 and 27936 are only for complete motor rebuild of their respective models.

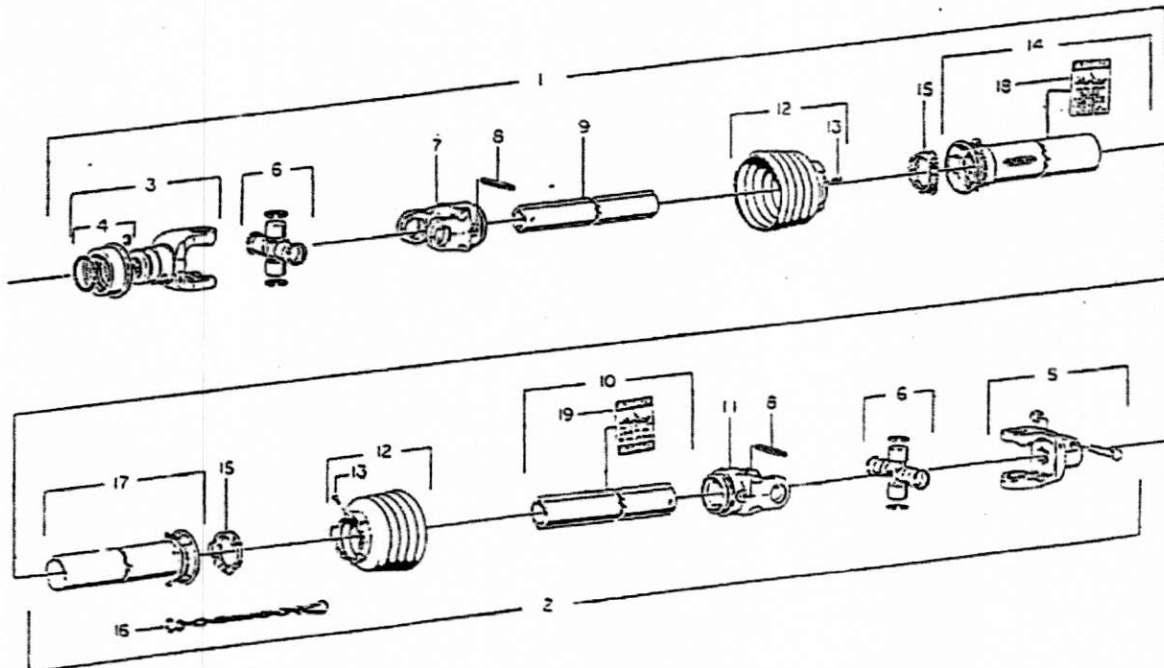
Note 4. Seals are only available through seal kits. Not sold separately.

THIS PAGE INTENTIONALLY LEFT BLANK



# DRIVE SHAFT GROUP

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	45152	Shaft w/shielding - Male Half	1
2	45153	Shaft w/shielding - Female Half	1
3	45154	End Yoke	1
4	45155	Collar Kit - For Item 3	1
5	45156	End Yoke	1
6	45157	Cross & Bearing Kit	2
7	45158	Inboard Yoke	1
8	45159	Spring Pin	2
9	45160	Inner Profile	1
10	45161	Outer Profile	1
11	45162	Inboard Yoke	1
12	45163	Shield Cone (5 Rib)	2
13	37681	Screw	2
14	45164	Outer Shield Tube w/cap	1
15	45165	Bearing Ring	2
16	37689	Safety Chain	1
17	45166	Inner Shield Tube w/cap	1
18	37690	Safety Sign - Outer	1
19	37691	Safety Sign - Inner	1
	45064	Drive Shaft Complete	1

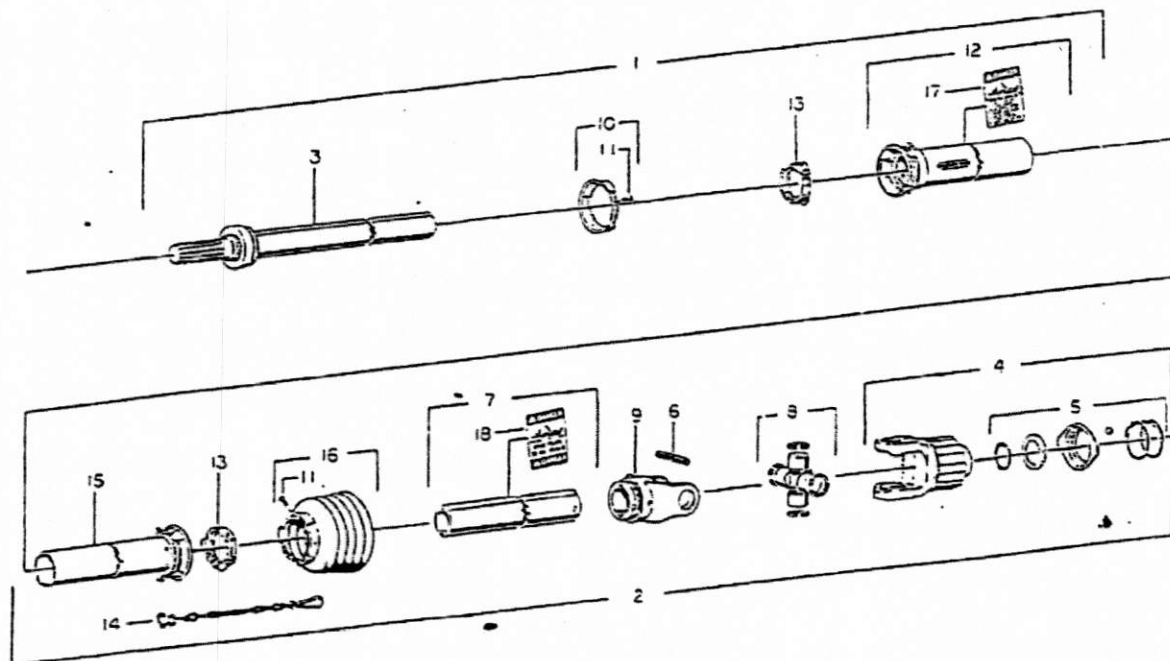


# DRIVE SHAFT (IMPLEMENT) GROUP

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	45167	Shaft w/Shielding - Male Half	1
2	45168	Shaft w/Shielding - Female Half	1
3	45169	Stub Shaft	1
4	45170	Clutch	1
5	45171	Quick Disconnect Kit (Item 4)	1
6	45159	Spring Pin	1
7	45172	Outer Profile	1
8	45157	Cross & Bearing Kit	1
9	45162	Inboard Yoke	1
10	45173	Guard Ring	1
11	37681	Screw	2
12	45174	Outer Shield Tube w/cap	1
13	45165	Bearing Ring	2
14	37689	Safety Chain	1
15	45175	Inner Shield Tube w/cap	1
16	45163	Shield Cone (5 Rib)	1
17	37690	Safety Sign - Outer	1
18	37691	Safety Sign - Inner	1

45065

Drive Shaft Complete with Torque Limiter

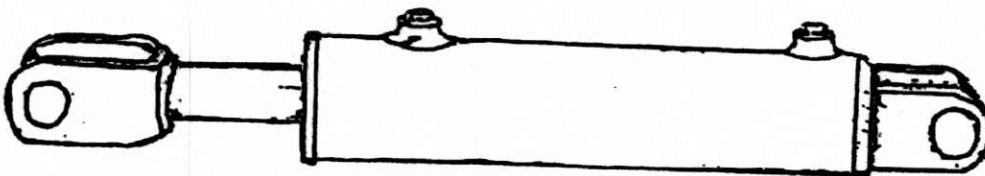


THIS PAGE INTENTIONALLY LEFT BLANK

SECTION III  
HYDRAULIC CYLINDERS

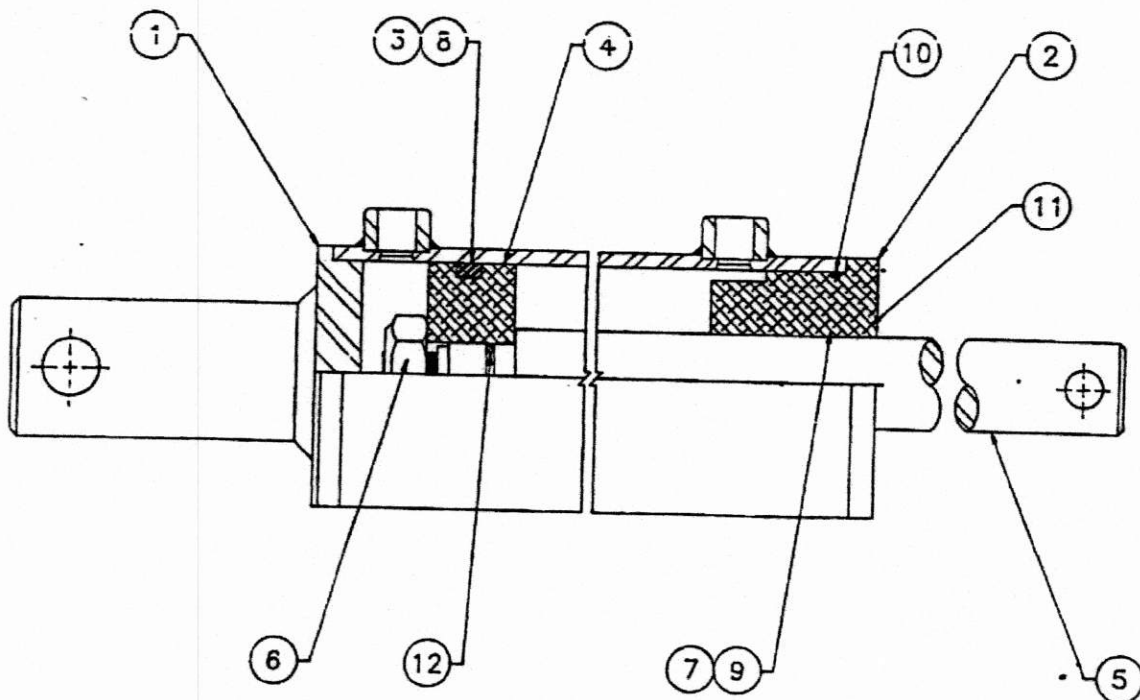
## TONGUE PIVOT CYLINDER GROUP

ITEM NO.	PART NO.	DESCRIPTION	QTY.
	47338	Cylinder Complete	1
	47339	Seal Kit	1



# DUMP BOX CYLINDER GROUP

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	36621	Tube Weldment	1
2	36429	Head	1
3	*	Back-up Washer	2
4	36619	Piston	1
5	36620	Rod	1
6		3/4"-16 UNF Lock Nut	1
7	*	Back-up Washer	1
8	*	O-Ring	1
9	*	O-Ring	1
10	*	O-Ring	1
11	*	Wiper	1
12	*	O-Ring	1
	36622	Cylinder Complete	
	36623	*Seal Kit	

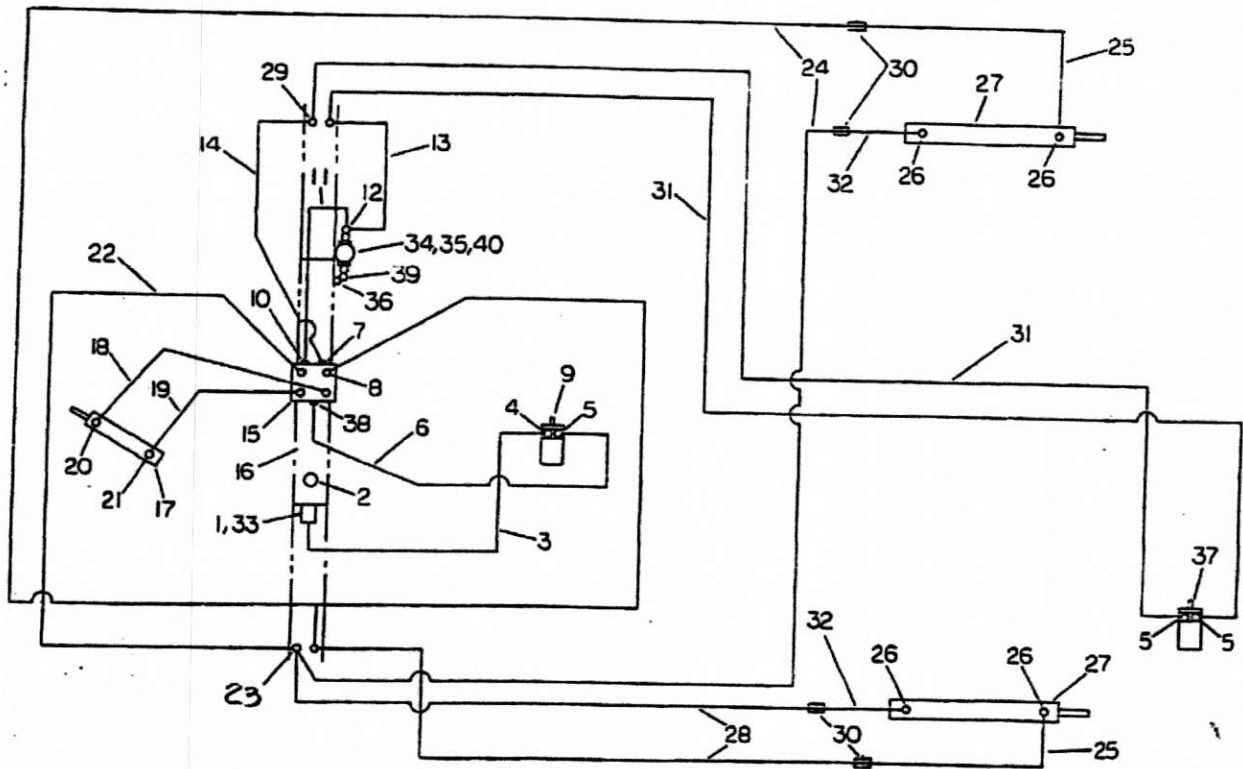


THIS PAGE INTENTIONALLY LEFT BLANK

SECTION IV  
HYDRAULIC CIRCUIT



# HYDRAULIC CIRCUIT



# HYDRAULIC CIRCUIT

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	35508	Strainer	1
2	11265	Air Breather	1
	05912	Reducer 1/2" x 3/8"	1
3	01683	Suction Hose: 1" SW x SE	1
4	37252	Adapter: (Special)	1
5	05186	Adapter: Straight 5/8" O-Ring x 1/2" JIC	3
6	06647	Hose Assembly: 1/2" x 22" SW x LE	1
7	05186	Adapter: Straight 5/8" O-Ring x 1/2" JIC	1
8	10674	Adapter: Straight 1/2" O-Ring x 3/8" JIC	4
9	05121	Motor	1
10	05186	Adapter: Straight 5/8" O-Ring x 1/2" JIC	1
11	34418	Hose Assembly: 1/2" x 20" SW x LE	1
12	07163	Adapter: Tee 1/2" MP x JIC	1
13	44389	Hose Assembly: 1/2" x 14" SW x LE	1
14	43029	Hose Assembly: 1/2" x 29" SW Both Ends	1
15	36397	Valve - Control	1
16	35437	Tank	1
17	47338	Cylinder - Tongue Pivot	1
18	05768	Hose Assembly: 3/8" x 30" SW x SE	1
19	35371	Hose Assembly: 3/8" x 18" SW x SE	1
20	05618	Adapter: 90° Elbow 3/8" MP x JIC	1
21	35372	Adapter w/Orifice (3/64)	1
22	43030	Hose Assembly: 3/8" x 34" SW x LE	2
23	05845	Adapter: Tee 3/8" BRANCH - BULKHEAD	2
24	36276	Hose Assembly: 3/8" x 116" SW x SE	2
25	36274	Hose Assembly: 3/8" x 51" SW x 45° EI	2
26	05574	Adapter: 90° Elbow 1/2" MP x 3/8" JIC	4
27	19670	Cylinder - Dump	2
28	36275	Hose Assembly: 3/8" x 73" SW x SE	2
29	03266	Adapter: 90° Elbow 1/2" JIC Bulkhead	2
30	05621	Adapter: Straight 3/8" JIC Bulkhead	4
31	43031	Hose Assembly: 1/2" x 250" SW Both Ends	2
32	36273	Hose Assembly: 3/8" x 14" SW x 45° EI	2
33	11812	Adapter: 90° Elbow 3/4" MP x 1" JIC	1
34	36964	Filter	1
35	36965	Element	1
36	05240	Adapter: 90° Elbow 1/2" MP x MP	1
37	05122	Motor	1
38	01570	Adapter	1
39	05241	Adapter: 90° Elbow 1/2" MP x FP	1
40	23291	Pipe Reducer 3/4" x 1/2"	2

THIS PAGE INTENTIONALLY LEFT BLANK

# INDEX

# THE GREGORY MANUFACTURING COMPANY

## MODEL 3500 CRUSTER CROSS REFERENCE BY PART NUMBER

PART	PAGE	ITEM	PART	PAGE	ITEM	PART	PAGE	ITEM	PART	PAGE	ITEM
01041	2-08	028	15151	2-06	013	35292	2-06	012	35685	2-08	015
01570	4-02	038	17198	2-13	002	35294	2-09	040	35721	2-08	032
01683	4-02	003	19548	4-02	041	35295	2-08	025	35722	2-08	031
03266	4-02	029	19670	2-08	010	35315	2-02	038	35907	2-06	025
03805	2-02	039	19670	4-02	027	35316	2-08	021	35908	2-06	027
04130	2-02	039	20051	2-13	013	35317	2-08	024	36084	2-08	007
04306	2-13	001	22043	2-09	043	35319	2-08	008	36096	2-02	018
04597	2-02	007	22087	2-09	042	35333	2-08	009	36098	2-08	002
04597	2-08	020	22108	2-09	040	35338	2-06	015	36099	2-08	006
05091	2-09	036	22221	2-09	040	35342	2-06	006	36136	2-02	001
05111	2-08	030	22625	5-01	005	35348	2-08	004	36138	2-06	016
05111	2-08	032	22685	1-07	007	35349	2-08	003	36140	2-06	026
05121	4-02	009	22685	5-01	011	35350	2-08	011	36148	2-06	005
05122	2-13	000	22696	1-07	005	35352	2-06	005	36147	2-08	016
05122	4-02	037	22696	5-01	014	35353	2-06	005	36150	2-06	014
05186	4-02	005	22701	5-01	002	35354	2-02	025	36157	2-06	001
05186	4-02	007	22719	2-13	006	35355	2-06	008	36158	2-06	028
05186	4-02	010	23275	2-02	040	35357	2-02	029	36161	2-02	004
05190	2-08	033	23291	4-02	040	35359	2-06	009	36173	2-02	021
05240	4-02	036	23342	2-02	022	35361	2-08	026	36174	2-08	022
05241	4-02	039	23362	2-08	034	35363	2-08	026	36180	2-06	024
05348	2-13	003	23383	2-08	030	35366	2-08	030	36181	2-08	001
0574	4-02	026	23383	2-08	032	35371	4-02	019	36183	2-06	016
05618	4-02	020	23443	2-02	040	35372	4-02	021	36185	2-06	020
05621	4-02	030	24127	2-06	018	35374	2-06	022	36235	2-06	010
05768	4-02	018	24496	2-03	048	35375	4-02	022	36259	2-06	010
05845	4-02	023	24503	2-06	023	35381	4-02	031	36270	2-02	005
05912	4-02	002	24678	4-02	014	35386	2-06	021	36271	2-02	002
06262	2-08	023	24710	2-08	018	35388	2-08	029	36273	4-02	032
06429	2-08	034	24828	2-06	007	35416	2-08	021	36274	4-02	025
06445	2-08	017	25169	2-02	014	35417	2-08	005	36275	4-02	028
06503	2-09	041	25169	2-06	004	35419	2-02	038	36276	4-02	024
06514	2-09	038	25309	2-09	036	35433	2-02	008	36277	2-06	002
06515	2-09	039	26178	2-02	034	35437	2-02	012	36285	2-02	003
06573	2-09	037	26634	2-06	017	35437	4-02	016	36288	1-07	001
06647	4-02	006	26908	2-13	007	35451	2-02	011	36288	5-01	007
07163	4-02	012	27275	2-02	009	35460	2-02	036	36289	2-03	042
07545	2-13	008	27936	2-13	012	35460	2-08	019	36291	2-02	022
07550	2-13	009	27937	2-13	011	35461	2-08	014	36358	2-02	023
07552	2-13	005	28044	1-07	006	35466	2-02	041	36370	5-01	015
07553	2-13	010	28044	5-01	013	35473	2-08	013	36371	2-03	042
07557	2-13	004	32530	5-01	006	35477	2-02	020	36383	2-08	027
08028	2-08	035	34418	4-02	011	35482	2-02	013	36397	2-12	000
09664	1-07	004	34748	5-01	016	35493	5-01	003	36397	4-02	015
09664	5-01	009	34833	1-07	002	35498	2-02	010	36398	2-02	029
10674	4-02	008	34833	5-01	012	35508	4-02	001	36429	3-02	002
11265	4-02	002	34868	1-07	008	35512	2-08	033	36449	2-06	005
11812	4-02	033	34868	5-01	008	35533	5-01	000	36562	2-02	037
12448	2-02	017	35266	2-06	003	35544	5-01	001	36619	3-02	004
12985	2-02	006	35291	2-06	011	35547	5-01	004	36620	3-02	005

THE GREGORY MANUFACTURING COMPANY

MODEL 3500 CRUSTER  
CROSS REFERENCE BY PART NUMBER

PART	PAGE	ITEM	PART	PAGE	ITEM
36621	3-02	001	45153	2-15	002
36622	3-02	000	45154	2-15	003
36623	3-02	000	45155	2-15	004
36663	2-02	030	45156	2-15	005
36664	2-02	036	45157	2-15	006
36946	2-02	032	45157	2-16	008
36957	2-12	006	45158	2-15	007
36958	2-12	005	45159	2-15	008
36959	2-12	004	45159	2-16	006
36960	2-12	000	45160	2-15	009
36961	2-12	003	45161	2-15	010
36964	4-02	034	45162	2-15	011
36965	4-02	035	45162	2-16	009
36974	2-02	033	45163	2-15	012
37017	2-12	005	45163	2-16	016
37128	2-08	012	45164	2-15	014
37156	2-02	015	45165	2-15	015
37161	2-02	028	45165	2-16	013
37164	2-02	035	45166	2-15	017
37178	2-02	016	45167	2-16	001
37179	2-03	043	45168	2-16	002
37179	2-03	044	45169	2-16	003
37180	2-02	026	45170	2-16	004
37194	2-02	031	45171	2-16	005
37197	2-03	049	45172	2-16	007
37204	2-03	045	45173	2-16	010
37204	2-03	047	45174	2-16	012
37230	2-06	019	45175	2-16	015
37236	2-06	029	45179	2-02	027
37252	4-02	004	47338	3-01	000
37253	2-03	046	47338	4-02	017
37681	2-15	013	47339	3-01	000
37681	2-16	011			
37689	2-15	016			
37689	2-16	014			
37690	2-15	018			
37690	2-16	017			
37691	2-15	019			
37691	2-16	018			
37786	2-02	019			
39798	2-08	034			
39813	2-08	034			
41873	4-02	013			
42533	1-15	017			
43118	1-07	003			
43118	5-10	010			
44389	4-02	013			
45064	2-15	000			
45065	2-16	000			
45152	2-15	001			