

CHIP SPREADER

Operations & Maintenance Manual

Serial # _____

Manual 9080
Effective with Serial # 51944



SealMaster®



Pavement Products & Equipment

PO Box 2277 • Sandusky, Ohio 44870 • 419-626-4375

SealMaster®

OPERATIONS & MAINTENANCE

MANUAL

MODEL

R - 1

Serial No. 90401-017

Manual 9080

EFFECTIVE WITH SERIAL NO. 51944

ThorWorks Industries, Inc.

Item Purchased: _____ Model No.: _____
Serial No.: _____ Acceptance/Ship Date: _____
Company: _____ Contact: _____
Address: _____ City: _____
Zip/Postal Code: _____ State: _____ Country: _____

CORRESPONDENCE

All correspondence regarding this equipment or general correspondence should be addressed to:

ThorWorks Industries, Inc.
PO Box 2277
Sandusky, OH 44870

In referring to the equipment, kindly state the Model Number, Serial Number and any Part Number involved.

INDUSTRIES
THORWORKS™

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ThorWorks Industries Inc. Limited Warranty for Equipment

ThorWorks warrants that its products are of quality material and workmanship. ThorWorks agrees to replace, within a one (1) year period from date of delivery, or at its option, repair without charge, any part of their manufacture which proved defective. The repair or replacement will be free of charge F.O.B. Sandusky Ohio, providing the damaged part or parts are returned freight prepaid to ThorWorks and investigation show such repair or replacement is made necessary by inherent defect of material or workmanship. Obvious damage by misuse or abuse voids any liability on ThorWorks part. Should you request the replacement part or parts be sent via 'next day air', you will be charged the difference between ground service and 'next day air'.

It is hereby understood that engines, motors, pumps, or other components purchased by ThorWorks for use on its equipment are not warranted by ThorWorks and are sold only with the standard warranty of the manufacturer of that component. ThorWorks will send the returned component back to the respective manufacturer for evaluation. Should the manufacturer deny the warranty claim, then ThorWorks will not honor any warranty and you will be required to pay ThorWorks for the replacement item that was shipped to you.

Any claims for defective material or workmanship must be made prior to the expiration of thirty (30) days from the date the failure occurs, and in all cases prior to the expiration of the warranty period of one (1) year. It is the intent of this paragraph to limit ThorWorks liability solely to the cost of replacement parts, F.O.B. factory, or at the option of ThorWorks, to repair of the defective part or parts. No allowances for damages, lost revenues or lost time will be recognized.

This warranty is null and void if other than genuine ThorWorks parts are used. ThorWorks is constantly striving to improve their products. Changes in design and improvement will be made whenever the manufacturer believes the efficiency of the product will be improved, without incurring any obligation to incorporate such improvements in any machines which have been shipped or are in service.

In an effort to continue to improve product quality, ThorWorks reserves the right to change specifications without notice. Any modification or alteration of this machine without prior approval of the manufacturer may void the warranty.

AVOID ACCIDENTS

MOST ACCIDENTS, WHETHER THEY OCCUR IN INDUSTRY, ON THE FARM, AT HOME OR ON THE HIGHWAY ARE CAUSED BY THE FAILURE OF SOME INDIVIDUAL TO FOLLOW SIMPLE AND FUNDAMENTAL SAFETY RULES OR PRECAUTIONS. FOR THIS REASON MOST ACCIDENTS CAN BE PREVENTED BY RECOGNIZING THE REAL CAUSE AND DOING SOMETHING ABOUT IT BEFORE THE ACCIDENT OCCURS.

REGARDLESS OF THE CARE USED IN THE DESIGN AND CONSTRUCTION OF ANY TYPE OF EQUIPMENT THERE ARE MANY CONDITIONS THAT CANNOT BE COMPLETELY SAFEGUARDED AGAINST WITHOUT INTERFERING WITH REASONABLE ACCESSIBILITY AND EFFICIENT OPERATION.

A careful operator is the best insurance against an accident. The complete observance of one simple rule would prevent many thousand serious injuries each year. That rule is:

Never attempt to clean, oil or adjust a machine while it is in motion.

NATIONAL SAFETY COUNCIL

MODEL R - 1

When you receive your Model R - 1 from the factory, it may be packed in many different ways. This is due to the rules of different Common Carriers. In general, this manual will try to explain how to set up your machine, from the shipping skid, lubricate, operate, maintain, and store it.

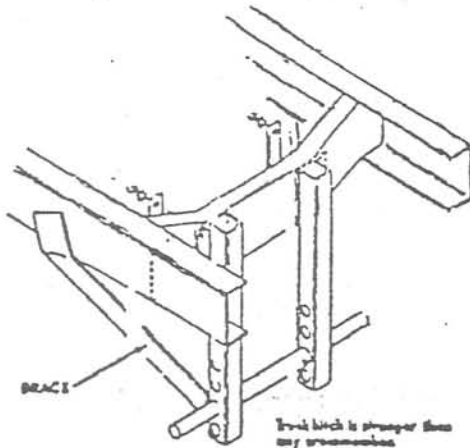
SET UP

Remove the spreader from the shipping skid, after inspecting it for any bent, damaged, or broken parts. Should there be any damage in shipping, consult the carrier who delivered the machine. Unpack all unattached parts. These parts may be attached to the inside of the hopper, to the skid, in the built-in tool box or shipped separately. Lay out all parts and check the parts section of this manual for identification.

The spreader hitch comes not installed. Lower the hitch jack by means of the crank of the LH end panel all the way to the bottom. Remove the collar from the hitch pin and press this pin back towards the front panel. Do not have the hitch jack so low as to cause a bind on the pin. Raise the hitch into place. Push the pin forward through the hitch and replace the collar. Install the hitch actuating handle.

Install the tilting bars in their proper place. Install the tailgate catcher.

Check the operation of the shift lever. The spreader may have to be moved slightly to obtain full throw on the shifting lever. Check the feedgate operation. Check the operation of the agitator clutch if spreader is so equipped. Free all controls if they should be tight.



Remove the chain shields and inspect the feedroller and agitator drives. Remove any foreign materials and check the chains for tightness. Reinstall the chain shields.

The truck hitch should now be mounted to the rear cross member of the truck frame. A diagonal brace is recommended with this type of hitch but is not furnished due to the wide variance in truck frames (see illustration). Clamp the truck hitch to the rear cross member, drill the mounting holes, and bolt it in place. Make a pair of braces to fit your truck.

LUBRICATION

Every 50 operating hours lubricate the following:

- Drive axle bearings
- Idler axle bearings
- Transmission bearings
- Feed Roller bearings
- Agitator bearings

On this type of bearing assembly use a hand operated low pressure grease gun. Add grease until a fine bead of grease appears around the seal on the front of the bearing.

Too much grease or too much pressure of the grease could damage this seal. **DO NOT OVER GREASE OR USE A HIGH PRESSURE GREASE GUN.** Typical damage to this seal from a high pressure grease gun is blowing the seal completely out of the bearing assembly.

Remove the transmission cover and lubricate the following:

- Reverse sprocket
- Shifter yoke - coat generously
- Jaw clutch - coat shaft and key generously
- Forward gear
- Gear teeth - coat generously
- Drive chain - clean in clean solvent, dry thoroughly and relubricate

Replace transmission cover and shift linkage after inspecting for any worn or damaged parts. Replace damaged parts immediately.

Remove chain shields from feed roller drive chain and agitator drive chain (if so equipped). Clean chains in good clean solvent, dry thoroughly and relubricate. Replace drive chains, adjust chain tightness and inspect all moving parts at this time. Replace any worn or damaged parts at this time. Replace chain shields.

Lubricate hitch guide angles by coating them generously with chassis grease.

In general, linkages on this unit do not need lubricant. However, should any linkage begin to rust up or seize, a small amount of oil will free it up again. Check with your local bulk plant or lubricant merchant for appropriate lubricants.

OPERATION

When preparing for the daily spreading operation a quick inspection of the spreader is suggested.

Be sure the truck hitch draw bar is in the set of holes closest to 14 ½ inches from the ground. Back the truck up to the spreader. Adjust the height of the spreader hitch by means of the hitch jack crank located on the LH end panel of the spreader. Open the jaws of the hitch with the trip lever. Using the trip lever and the tilting bars guide the spreader hitch as the truck makes contact. Be sure both hitch jaws are locked over the drawbar.

ALWAYS GIVE PART NAME, NUMBER AND MACHINE SERIAL NUMBER WHEN ORDERING PARTS
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WARNING:

Stand at the end of the spreader hopper to avoid being crushed between the truck and the spreader.

It will be noted in operation that a slight forward rake to the spreader hopper is best. This will keep the spreader balance rollers from scuffing the tack coat or the finished blanket. Use the hitch jack to obtain a $1\frac{1}{2}^{\circ}$ - 5° rake on the hopper. This angle may change due to the springs of the tow truck. As the load decreases the back of the truck will rise. Find the rake of the spreader that will keep the balance rollers out of contact until the truck is empty.

Install the operators platform (if so equipped). Shift transmission into gear, either forward (back) or reverse (front). Install the block-off plates if the spread width is to be less than the spreader width. Insert the block-off plates into the slot formed between the closed feedgate and the rear hopper panel. This is done easiest when the hopper is empty. Open feedgate to desired depth, each notch is approximately $\frac{1}{4}$ ". Fill the spreader hopper and proceed to spread. If a shifting error was made the transmission will snap to neutral, preventing damage to the drives. Try to avoid excessive shifting errors.

Normal spreading speeds are from 1 to 3 miles per hour, depending on the material being spread, depth of blanket, or type of base to be covered.

Streaking of the blanket usually is caused by large lumps in the hopper between the feed roller and the feedgate. Should streaking become a problem, a better grade of material should be obtained.

The agitator (if so equipped) is used to keep the material being spread from becoming packed over the feed roller and to convey material to the ends of the hopper. The agitator is engaged or disengaged by means of the clutch lever on the RH end of the spreader. It is most desirable when materials are extremely difficult to spread.

The feed roller is considered in good condition when the spiral grooves are visible. When these grooves wear off, replace the feed roller immediately. Do not regroove this roller because it has already been worn to its minimum allowable diameter.

MAINTENANCE

During the 50 hour lubrication stop, inspect all operating parts. Should any damaged or excessive wear be evident, replace the parts immediately. Straighten any bent parts as soon as possible. Clean and repaint any exposed parts to retard rust.

For any specific problems, see the following troubleshooting chart.

TROUBLESHOOTING

MALFUNCTION	PROBABLE CAUSES	CORRECTIVE ACTION
1. Feed roller does not operate.	<ul style="list-style-type: none"> a. Broken drive chain b. Chain off of a sprocket c. Broken gear teeth d. Clutch not engaging e. Material jammed between hopper and roller f. Bearings not turning freely 	<ul style="list-style-type: none"> a. Replace chain b. Reinstall chain c. Replace gear d. Replace or repair clutch e. Clean material out f. Replace bearings
2. Towing hitch does not latch	<ul style="list-style-type: none"> a. Broken tension spring b. Broken hooks in hitch jaws c. Bent drawbar 	<ul style="list-style-type: none"> a. Replace spring b. Replace hitch c. Straighten or replace drawbar
3. Traction wheels binding	<ul style="list-style-type: none"> a. Bearings not turning freely b. Material jammed between hopper and roller c. Broken gear teeth 	<ul style="list-style-type: none"> a. Replace bearings b. Clean material out c. Replace gear
4. Support wheels binding	<ul style="list-style-type: none"> a. Bearings not turning freely 	<ul style="list-style-type: none"> a. Replace bearings
5. Feedgate not operating properly	<ul style="list-style-type: none"> a. Key in hub lost or loose b. Broken or worn out hub on lever 	<ul style="list-style-type: none"> a. Replace key and tighten set screws b. Replace or repair lever
6. Chains not contacting sprockets properly	<ul style="list-style-type: none"> a. Chain tension improperly adjusted b. Broken sprocket teeth 	<ul style="list-style-type: none"> a. Adjust chain tightener b. Replace sprocket
7. Transmission will not engage	<ul style="list-style-type: none"> a. Key in shifter yoke lost or loose b. Clutch broken or worn out 	<ul style="list-style-type: none"> a. Replace key and tighten set screws b. Replace clutch
8. Agitator does not operate	<ul style="list-style-type: none"> a. Broken drive chain b. Chain off sprockets c. Clutch not engaging d. Broken sprocket teeth e. Drive bolt broken f. Bearings not turning freely g. Feed roller not operating 	<ul style="list-style-type: none"> a. Replace chain b. Reinstall chain c. Repair or replace clutch d. Replace sprockets e. Replace bolt f. Replace bearings g. See 1, feed roller does not operate

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STORAGE

Perform all required maintenance and lubrication procedures. Coat all shafts with grease. Clean and paint all exposed parts. Block spreader up off the ground or turn upside down and deflate tires.

NOTE

Normal tire pressure is 70 pounds

TRAILER

With the unit secured to the pintle hook on the truck, install the lifting jack assemblies to their mounting points. Raise the spreader evenly with the jacks. Unbolt the trailer axle and roll it out from under the spreader. Lower the spreader to the ground with the hitch tongue still attached to the truck. Unlatch the pintle hook. It may be necessary to lift the spreader with the jacks to do this. Lower the spreader evenly to the ground. Remove the hitch tongue and jack assemblies.

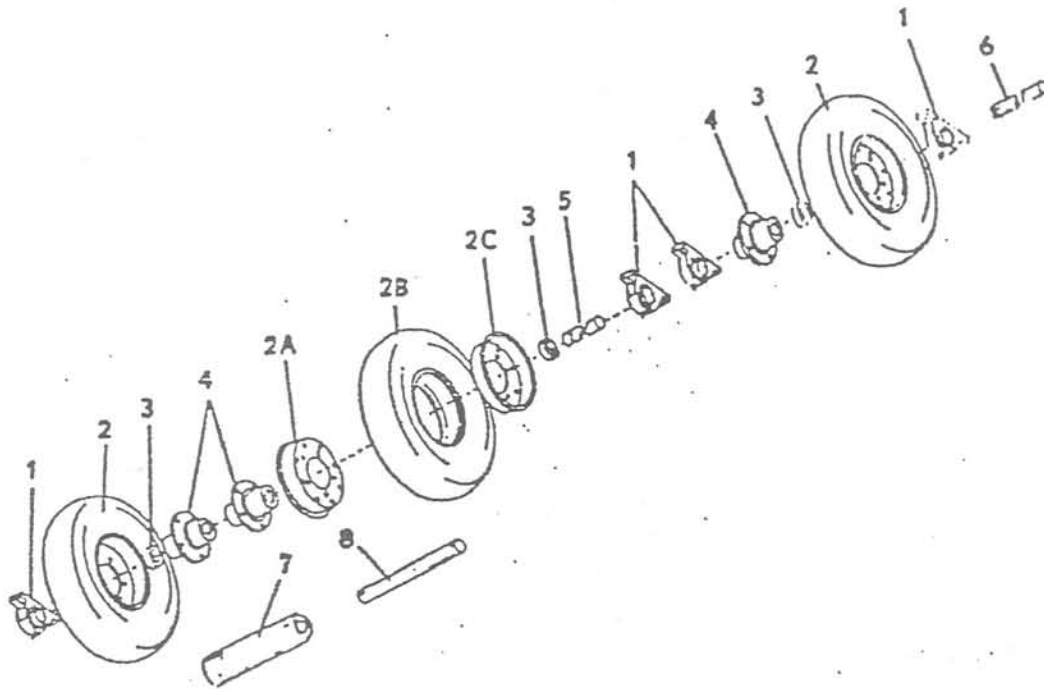
To reinstall the trailer, place the jacks under their lifting pads. Reinstall the hitch tongue. Raise the spreader and attach it to the truck pintle hook. Raise the spreader. Roll the axle into place and bolt it there. Lower the jacks and remove them.

NOTE

The hydraulic jacks must be operated together to keep from twisting the jacks or dumping the spreader.

WARNING

**Use extreme caution when using a shovel in the hopper.
Keep all tools away from the rotating augers.**

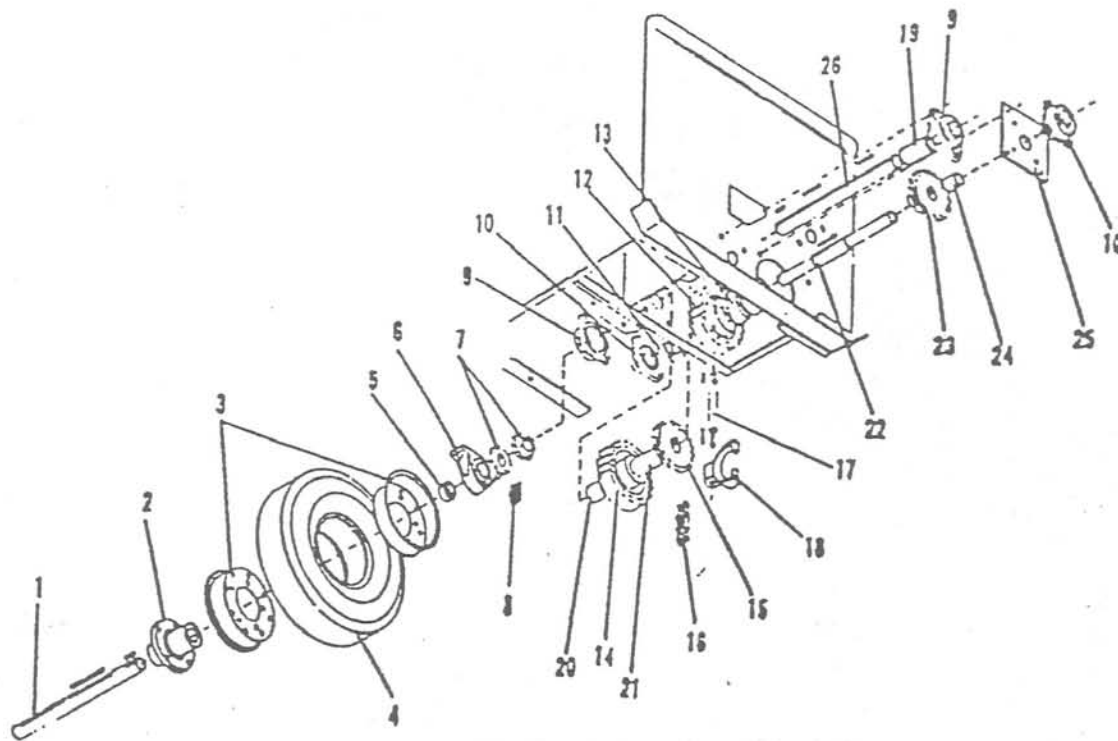


IDLER AXLE & BALANCE ROLLERS

ITEM	PART NO.	DESCRIPTION	QTY	
			8', 9', 10'	12'
1	6370	Bearing - Pillow Block	2	4
2	45155	Ass'y - Wheel, 6-ply	2	3
2A	6751	Wheel Half w / out Stem Hole	**2	**3
2B	6747	Tire-690 / 600 x 9, 10 ply	**2	**3
	6739	Tube	**2	**3
2C	6750	Wheel Half w / Stem Hole	**2	**3
3	2699	Collar - Set	2	3
4	9599	Hub - Wheel	2	3
5	44709	Shaft - Idler Axle	1	1
6	44787	Shaft - Stub Axle		1
7	44705	Ass'y, Balance Roller	2	2
8	44708	Shaft - Roller	2	2

** Included in Item 2

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DRIVE TRAIN

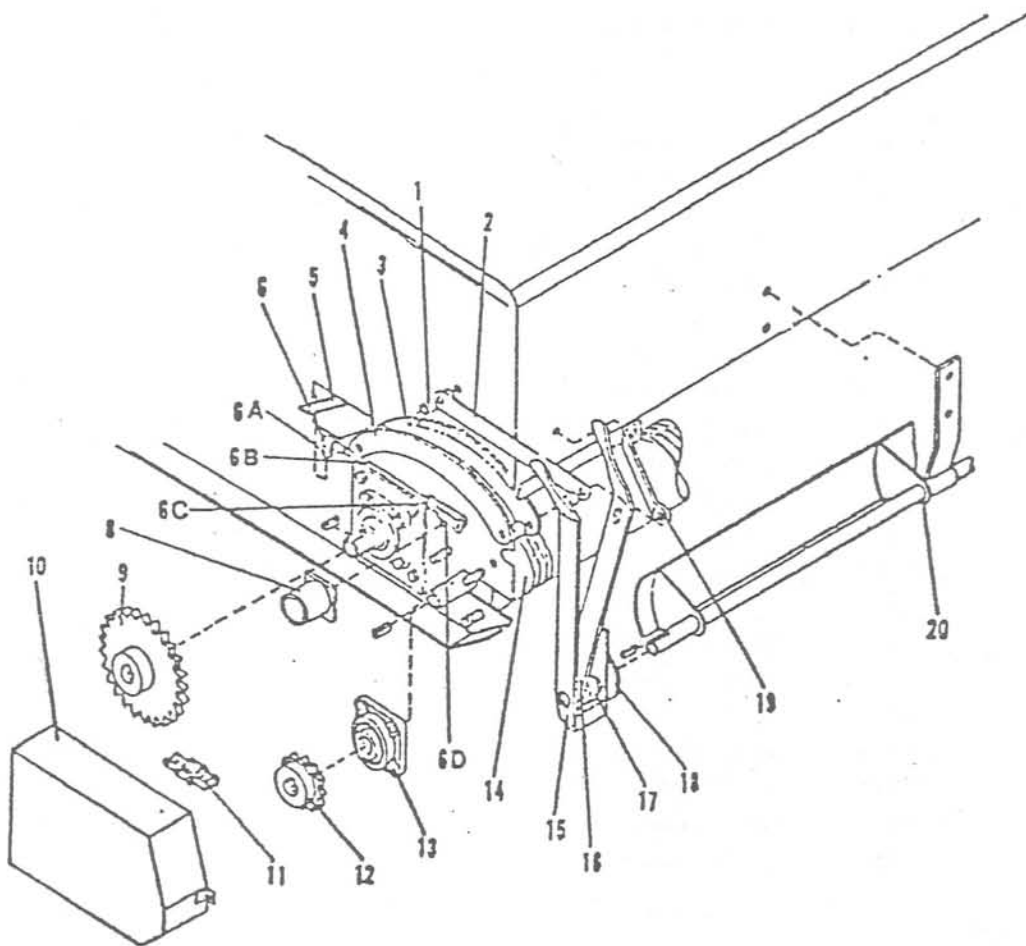
ITEM	PART NO.	DESCRIPTION	QTY	
			8', 9', 10'	12'
1	44696	Shaft - Drive Axle	1	1
2	9599	Hub - Wheel	2	3
3	6750	Wheel - Half w / Stem Hole	2	3
	6751	Wheel - Half w / out Stem Hole	2	3
4	6739	Tube	2	3
	6747	Tire 6.90 / 6.00 x 9-10 ply	2	3
5	2699	Collar - Set	2	3
6	6370	Bearing - Pillow Block	2	4
7	9068	Half, Chain Coupling	2	2
8	9069	Ass'y. - Chain	1	1
9	6697	Bearings - Flange 1½"	2	2

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ITEM	PART NO.	DESCRIPTION	QTY	
			8', 9', 10'	12'
10	6693	Bearing - Flange 1¼"	2	2
11	44694	Spacer - Gear	1	1
12	6647	Clutch Gear	1	1
	6639	Bushing (Part of 6647)	1	1
13	6552	Clutch - Sliding	1	1
14	10702	Gear - Drive	1	1
15	10757	Sprocket - Drive	1	1
16	6176-33	Chain Roller #80	1	1
	6174	Links - Connecting #80	1	1
17	10291	Shaft - Shifter	1	1
18	6651	Shift Yoke	1	1
19	10284	Spacer	1	1
20	10285	Spacer	1	1
21	10286	Spacer	1	1
22	44695	Shaft - Driven	1	1
23	6641	Clutch - Sprocket	1	1
24	44693	Spacer - Sprocket	1	1
25	44698	Plate - Bearing Mount	1	1
26	44697	Shaft - Drive	1	1
27**	10292	Bottom Cover	1	1
28**	44787	Shaft - Stub Axle		1

** Not illustrated



DRIVE TRAIN AND SHIFTER

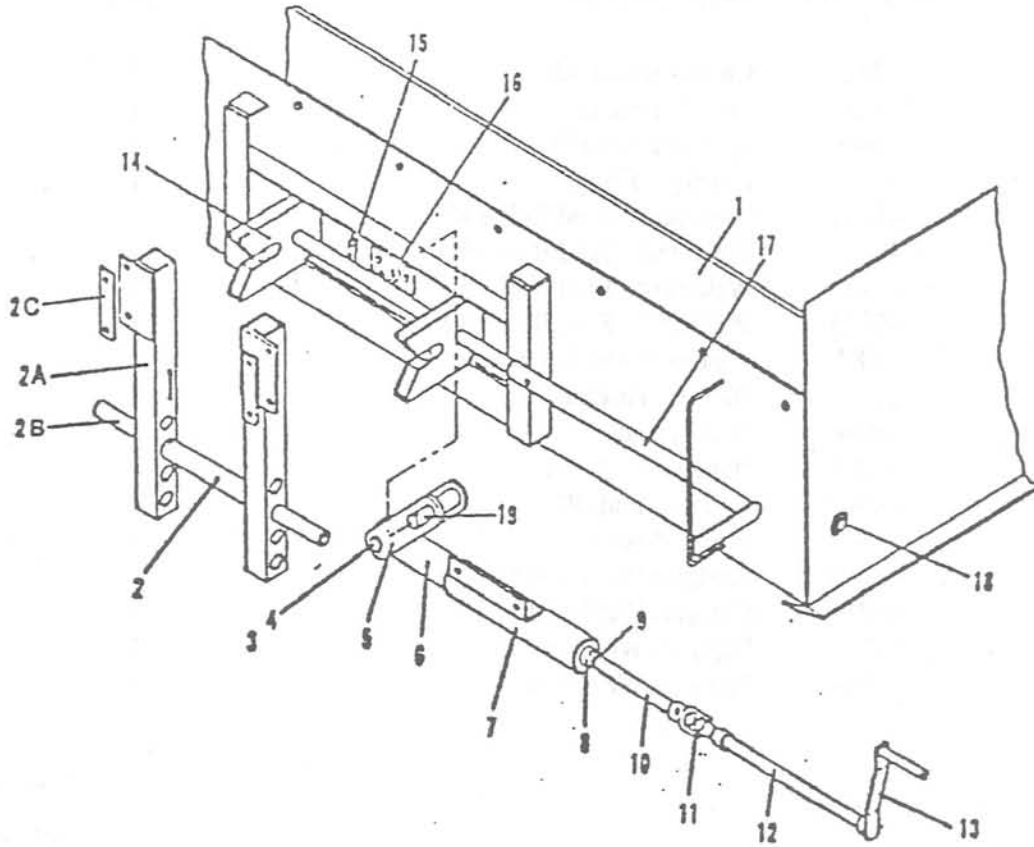
ITEM	PART NO.	DESCRIPTION	QTY
1	2128	Roller - Chain	8
2	44814	Bar - Sector Backing	2
3	44719	Sector - Feed Gate	2
4	10273	Weldm't - Clutch Lever Sector	1
5	9079	Weldm't - Lever	1
6	10274	Ass'y - Shift Linkage	1
6A	40618	Ball Joint	1
6B	10272	Rod	1
6C	21084	Jam Nut	1
6D	9070	Yoke	1
7	6125*	Pin - Clevis	1
8	44690	Chain Tightener	1
9	6644	Sprocket 19T #80	1
10	9071	Shield - Chain	1

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ITEM	PART NO.	DESCRIPTION	QTY
11	6176-37	Chain - Roller #80	1
	6174	Link Connector	1
12	6643	Sprocket 12T #80	1
13	6693	Bearing - Flange	1
14	45121	Weldment - Feed Roller 8'	1
	45122	Weldment - Feed Roller 9'	1
	45123	Weldment - Feed Roller 10'	1
	45125	Weldment - Feed Roller 12'	1
15	9089	Weldment - Shift Lever	1
16	44718	Handle - Feedgate	2
17	9469	Hub - Handle	2
18	9078	Hanger - End, LH.	1
	10734*	Hanger - End, RH.	1
19	44720	Brace - Sector	2
20	44710	Feedgate Weldment 8'	1
	44711	Feedgate Weldment 9'	1
	44712	Feedgate Weldment 10'	1
	44714	Feedgate Weldment 12'	1

* Not Shown



TRUCK HITCH

ITEM	PART NO.	DESCRIPTION	QTY
1	44721	Belt - 8'	1
	44722	Belt - 9'	1
	44723	Belt - 10'	1
	44725	Belt - 12'	1
2	44731	Truck Hitch - (Complete)	1
2A	44732	Weldment - Truck Hitch	1
2B	44736	Hitch Shaft	1
2C	45284	Bolting Pad	2
3	6892	Supporting Tube Pin	1
4	6089	Snap Ring	3
5	6889	Lift Arm Weldment	1
6	6885	Inner Tube Weldment	1
7	44685	Outer Tube Weldment	1
8	10299	Thrust Bearing	1

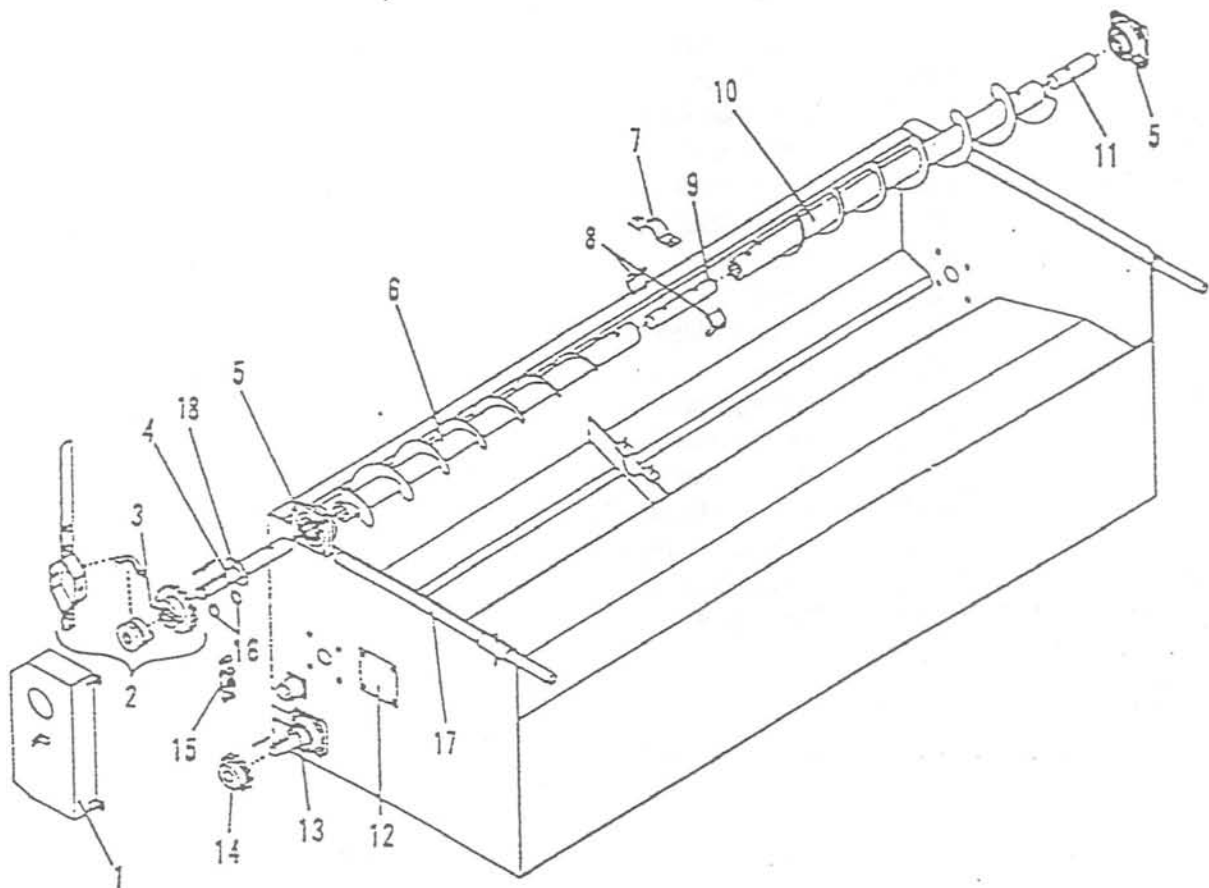
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 Form No. 200 - 523

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ITEM	PART NO.	DESCRIPTION	QTY
9	6895	Shaft Collar	3
10	9082	Jack Screw	1
11	22464	Universal Joint	1
12	6928	Crank Shaft - 8'	1
	6929	Crank Shaft - 9'	1
	6930	Crank Shaft - 10'	1
	6932	Crank Shaft - 12'	1
13	10271	Crank	1
14	44682	Hitch Weldment	1
15	6742	Spring	1
16	6899	Bolting Plate	1
17	6960	Release Handle - 8'	1
	6961	Release Handle - 9'	1
	6962	Release Handle - 10'	1
	6964	Release Handle - 12'	1
18	31209	Flange Bearing	1
19	6898	Pin - Hitch	1

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AUGER

ITEM	PART NO.	DESCRIPTION	QTY
1	11497	Weldment - Chain Shield	1
2	44799	Clutch	1
3*	44800	Bearing - Bronze	1
4	10297	Shaft - Drive	1
5	6697	Bearing - Flange	2
6	6701	Agitator RH 8'	1
	6703	Agitator RH 9'	1
	6705	Agitator RH 10'	1
	6709	Agitator RH 12'	1
7	29065	Strap - Bearing	1
8	6344	Bearing - Hard Iron	1
9	44797	Shaft - Center	1
10	6702	Agitator LH 8'	1
	6704	Agitator LH 9'	1
	6706	Agitator LH 10'	1
	6710	Agitator LH 12'	1

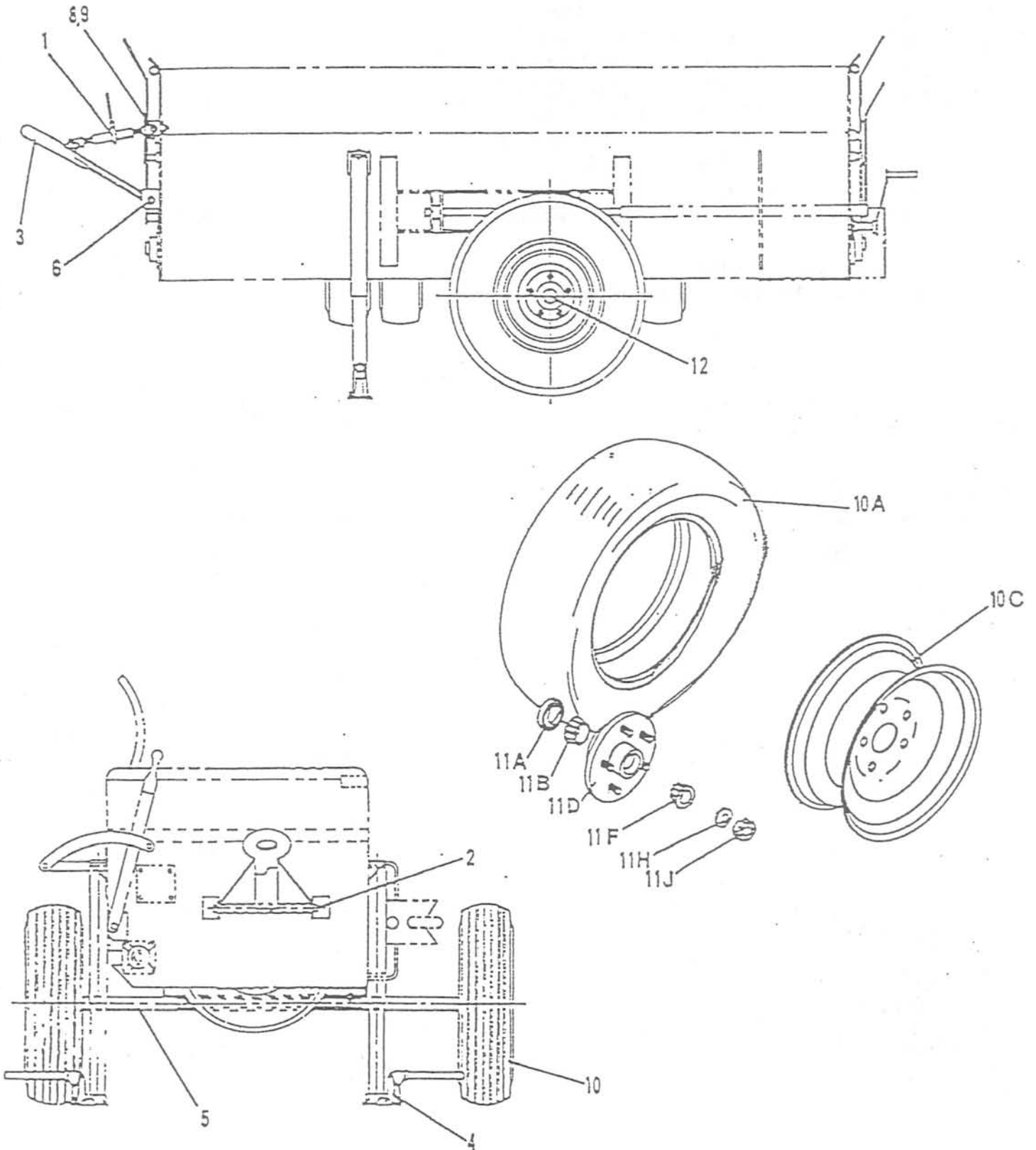
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ITEM	PART NO.	DESCRIPTION	QTY
11	44798	Shaff - Idler	1
12**	6926	Cover - Plate	2
13	44690	Chain Tightener	1
14	6643	Sprocket 12T #80	1
15	6176-35	Chain - Roller	1
	6174	Link - Connecting	1
16	22621	Snap Ring	2
17	6832	Handle - Tilting	2
18	2707	Machine Washer	1

* Included as Part of Item 2

** Used only When Agitator is Not Specified

TRAILER ASSEMBLY

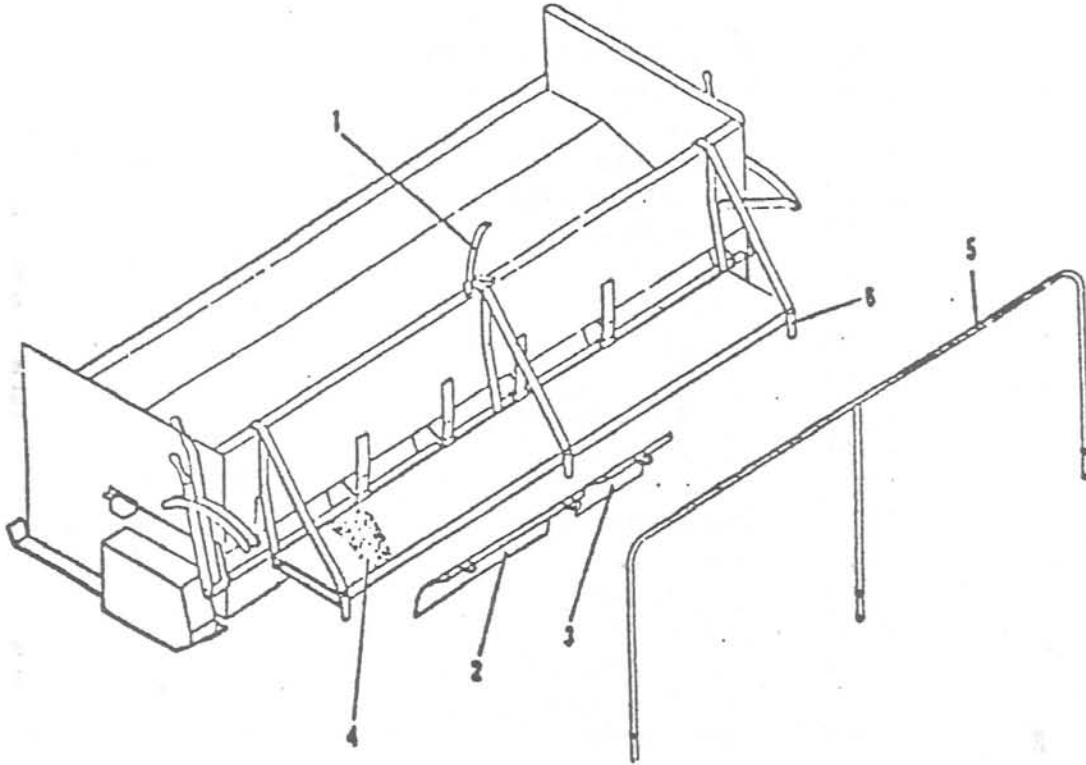


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ITEM	PART NO.	DESCRIPTION	QTY
*	10289	Trailer Assembly - Complete	
1	11091	Ratchet Jack	1
2	11449	Hair Pin	2
3	10268	Hitch Tongue	1
4	44765	Jack Weldment - Hyd.	2
5	44825	Axle Weldment	1
6	44774	Pivot Shaft	1
7**	44793	Truck Hitch	1
8	40576	Hair Pin	1
9	11450	Pin	1
10	44794	Tire & Wheel Assembly	2
10A	22540	Tire ST 205/75R14	1
10C	44778	Wheel 14 x 5½ JJ	1
11	44817	Hub Assembly	2
11A	44821	Seal	1
11B	44819	Inner Bearing	1
11C**	44826	Inner Bearing Cup	1
11D	44818	Hub with Inner & Outer Cups	1
11E**	44827	Outer Bearing Cup	1
11F	44820	Outer Bearing	1
11G**	44823	Lug Bolt	5
11H	44828	Washer - Axle	2
11J	44829	Nut - Axle	2
12	44822	Hub - Cap	2

* Includes Items 1 - 12

** Not Shown



OPERATOR'S PLATFORM

ITEM	PART NO.	DESCRIPTION	QTY
1	44674	Tailgate Catcher	1
2	44738	Block Off Plate - 24"	AR
3	44737	Block Off Plate - 12"	AR
4	44741	Catwalk - 8'	1
	44742	Catwalk - 9'	1
	44743	Catwalk - 10'	1
	44745	Catwalk - 12'	1
5	45136	Handrail - 8'	1
	45137	Handrail - 9'	1
	45138	Handrail - 10'	1
	45140	Handrail - 12'	1
6	45148	Handrail Socket	3

AR. As Required

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