

Chip Spreader

OWNERS MANUAL



SealMaster®



Pavement Products & Equipment

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

sealmaster.net

R-1 AGGREGATE CHIP SPREADER

Owner's Manual

Version 2.0

Issue Date: April 2019

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Version	Date	Changes	Approval
1.0		Original Issue	
2.0	4/19	New Format and Updates	DS

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ThorWorks Industries, Inc.

Purchased by _____ Model NO. _____
Company Name _____ Serial NO. _____
Address _____ Acceptance Date _____
City _____ State _____ Zip _____

CORRESPONDENCE

All Correspondence regarding this equipment, as well as 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



SealMaster® LIMITED WARRANTY

SealMaster warrants that its products are of quality material and workmanship. SealMaster agrees to replace, within a period of one (1) year 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 SealMaster and investigation shows such repair or replacement is made necessary by an inherent defect of material or workmanship.

It is hereby understood that engines, motors, pumps, or other components purchased by SealMaster for use on its equipment are not warranted by SealMaster and are sold only with the standard warranty of the manufacturer of that component.

SealMaster will make no allowances for repairs or alterations completed by outside sources unless authorization is in writing and approved by an authorized SealMaster representative.

Any claims for defective material or workmanship must be made prior to the expiration of thirty (30) days from the date 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 SealMaster's liability solely to the cost of replacement parts, F.O.B. factory, or at the option of SealMaster to repair of the defective part or parts. No allowances for damages, lost time, or any other claim will be recognized.

This warranty is null and void if other than genuine SealMaster parts are used.

SealMaster 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, SealMaster reserves the right to change specifications without notice.

Any modification or alteration of this machine without prior approval of the manufacturer may void this warranty.

SAFETY PRECAUTIONS AND CAUTIONS

PRECAUTIONS

- **Always** wear **eye** and **ear** protection, and **gloves**.



- Be aware of all **CAUTION, WARNING, DANGER** signs on the unit.
- Read all Owners Manuals that come with this unit.
- Make sure the operator is familiar with units' operation.

CAUTIONS

- Keep hands, feet, and clothing away from moving parts.
- Do not operate the machine without all guards in place.

WARNING!

When backing the truck up to the spreader, and hitching the spreader, **stand at the end of the spreader hopper to avoid being crushed between the truck and the spreader.**

R-1 AGGREGATE CHIP SPREADER

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.

Lay out all parts and check the parts section of this manual for identification.

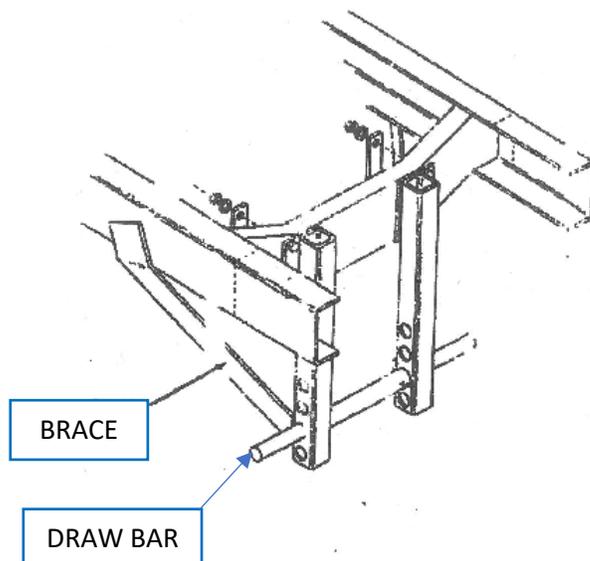
Check the operation of the shift lever. The spreader may have to be moved slightly to obtain full throw on the shifting lever. Check the feed gate operation. Check the operation of the agitator clutch if spreader is so equipped.

R-1 AGGREGATE CHIP SPREADER

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.

Always place draw bar in the second set of holes from the ground during the hitch installation. This allows for adjustment up or down if required.

Be sure the truck hitch draw bar is in the set of holes closest to 14-1/2 inches from the ground, when truck is half full.



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 1-1/2° - 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 balance rollers out of contact until the truck is empty.

LUBRICATION

Every 50 operating hours lubricate the following:

- Page 15 Drive axle bearings ----- item 6
- Page 14 Transmission bearings ----- item 9 and 10
- Page 19 Truck Hitch ----- item 18
- Page 13 Idler axle bearings ----- item 1
- Page 17 Feed Roller bearings ----- item 13
- Page 23 Agitator bearings ----- item 5

R-1 AGGREGATE CHIP SPREADER

LUBRICATION

On this type of bearing assembly use a 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.

NOTE: DO NOT OVER GREASE OR USE A HIGHPRESSURE GREASE GUN.

Typical damage to this seal from high pressure grease gun is blowing the seal completely out of the bearing assembly.

TRANSMISSION DRIVE TRAIN: PICTURE 1

- 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 re-lubricate

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

SPIRAL ROLLER DRIVE: PICTURE 2

Remove chain guard from feed roller drive chain. Clean chain in good clean solvent, dry thoroughly and re-lubricate. 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.

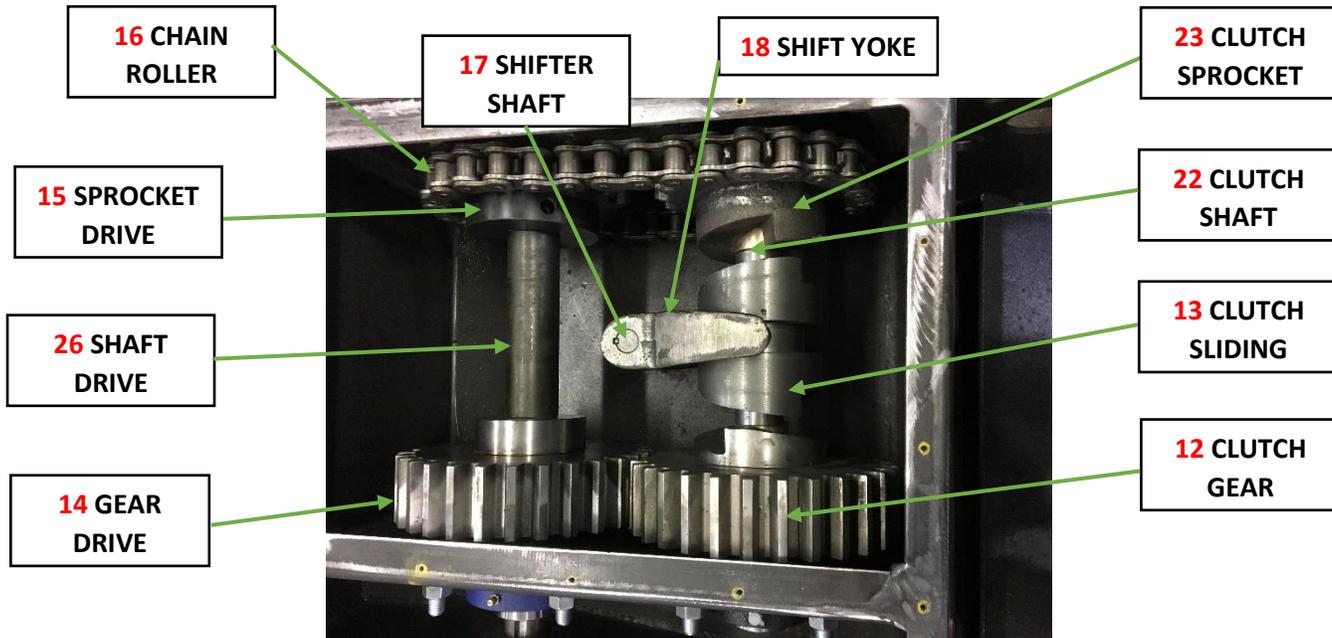
TRUCK HITCH: PICTURE 3

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 or appropriate merchant for appropriate lubricants.

R-1 AGGREGATE CHIP SPREADER

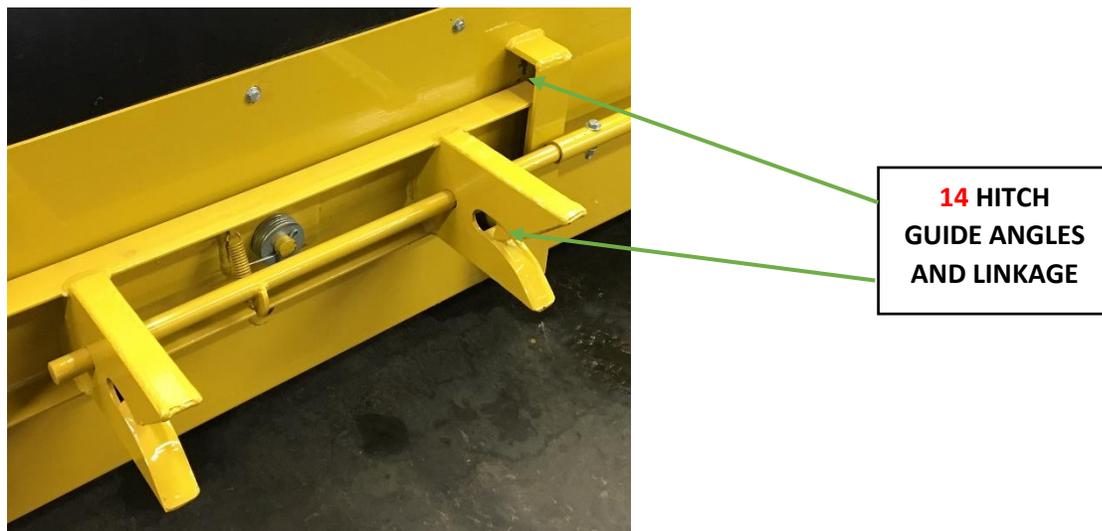
TRANSMISSION DRIVE TRAIN: PICTURE 1



SPIRAL ROLLER DRIVE: PICTURE 2



TRUCK HITCH: PICTURE 3



R-1 AGGREGATE CHIP SPREADER

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

WARNING:

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

14-1/2 inches from the ground. Back the truck up to the spreader. Adjust the height of the spreader hitch by means of the 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.

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 1-1/2° - 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 balance rollers out of contact until the truck is empty.

Install the operator's 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 feed gate and the rear hopper panel. This is done easiest when the hopper is empty. Open feed gate to desired depth, each notch is approximately 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.

R-1 AGGREGATE CHIP SPREADER

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 feed gate. Should streaking become a problem, a better grade of material should be obtained

The agitator (if so equipped) is use 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 dis-engaged 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 groves 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 re-paint any exposed parts to retard rust.

For any specific problems, see the following troubleshooting chart.

R-1 AGGREGATE CHIP SPREADER

TROUBLE SHOOTING GUIDE

PROBLEM	POSSIBLE CAUSES/SOLUTIONS
FEED ROLLER DOES NOT OPERATE	DRIVE CHAIN BROKEN / REPLACE CHAIN
	CHAIN OFF OF A SPROCKET / REINSTALL CHAIN
	GEAR TEETH BROKEN / REPLACE GEAR
	CLUTCH NOT ENGAGING / REPLACE OR REPAIR CLUTCH
	MATERIAL JAMMED BETWEEN HOPPER AND ROLLER / CLEAN MATERIAL OUT
	BEARINGS NOT TURNING FREELY / REPLACE BEARINGS
TOWING HITCH DOES NOT LATCH	TENSION SPRING BROKEN / REPLACE SPRING
	HITCH JAW HOOKS BROKEN / REPLACE HITCH
	DRAWBAR BENT / STRAIGHTEN OR REPLACE DRAWBAR
TRACTION WHEELS BINDING	BEARINGS NOT TURNING FREELY / REPLACE BEARINGS
	MATERIAL JAMMED BETWEEN HOPPER AND ROLLER / CLEAN MATERIAL OUT
	GEAR TEETH BROKEN / REPLACE GEAR
SUPPORT WHEELS BINDING	BEARINGS NOT TURNING FREELY / REPLACE BEARINGS
BALANCE ROLLERS DRAG	TIRES NOT PROPERLY INFLATED / INFLATE TO 120 P.S.I. HITCH NOT PROPERLY INSTALLED / LOWER TRUCK HITCH
FEED GATE NOT OPERATING PROPERLY	KEY IN HUB LOST OR LOOSE / REPLACE KEY AND TIGHTEN SET SCREWS
	LEVER BROKEN OR WORN OUT / REPLACE OR REPAIR LEVER
CHAINS NOT CONTACTING SPROCKETS PROPERLY	CHAIN TENSION IMPROPERLY ADJUSTED / ADJUST CHAIN TIGHTENER
	SPROCKET TEETH BROKEN / REPLACE SPROCKET
TRANSMISSION WILL NOT ENGAGE	KEY IN SHIFTER YOKE LOST OR LOOSE / REPLACE KEY AND TIGHTEN SET SCREWS
	CLUTCH BROKEN OR WORN OUT / REPLACE CLUTCH
AGITATOR DOES NOT OPERATE	DRIVE CHAIN BROKEN / REPLACE CHAIN
	CHAIN OFF OF A SPROCKETS / REINSTALL CHAIN
	CLUTCH NOT ENGAGING / REPLACE OR REPAIR CLUTCH
	SPROCKET TEETH BROKEN / REPLACE SPROCKET
	DRIVE BOLT BROKEN / REPLACE BOLT
	BEARINGS NOT TURNING FREELY / REPLACE BEARINGS
	FEED ROLLER DOES NOT OPERATE / SEE (1) TROUBLE SHOOT

R-1 AGGREGATE CHIP SPREADER

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 120 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 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. Unlash 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.

R-1 AGGREGATE CHIP SPREADER

IDLER AXLE & BALANCE ROLLERS

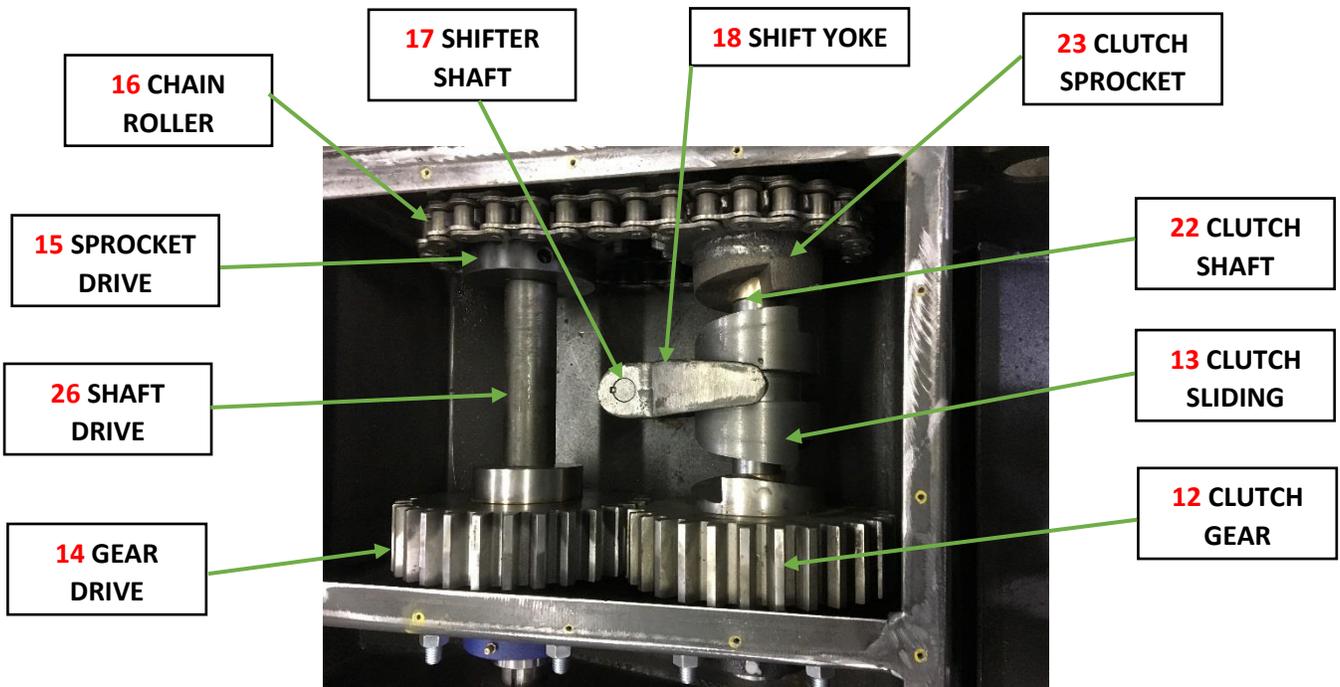
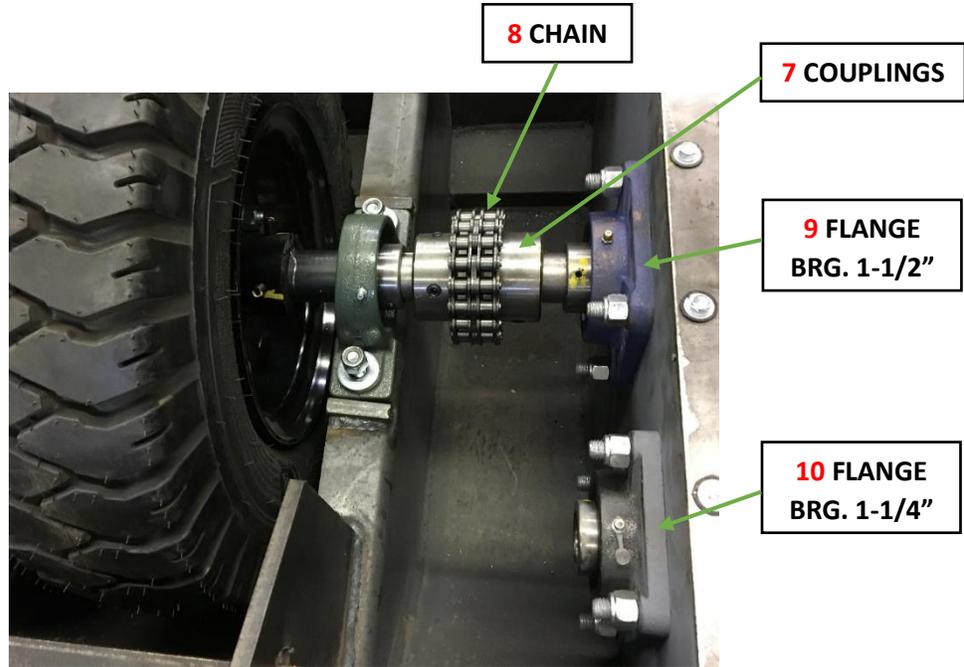


PARTS LIST

ITEM	PART NO.	QTY. 10'	DESCRIPTION
1	P435A004	2	BEARING – PILLOW BLOCK
2	P576A008	2	WHEEL – TIRE ONLY
	P574A003	2	TUBE
4	9599	2	HUB – WHEEL
5	44709A	1	SHAFT – IDLER AXLE
6	P577A003	2	SPLIT RIM ASSEMBLY
7	44705	2	ASSEMBLY – BALANCE ROLLER
	44706	2	BALANCE – ROLLER
	P438A002	2	BEARING – F1100
8	44708	2	SHAFT – ROLLER

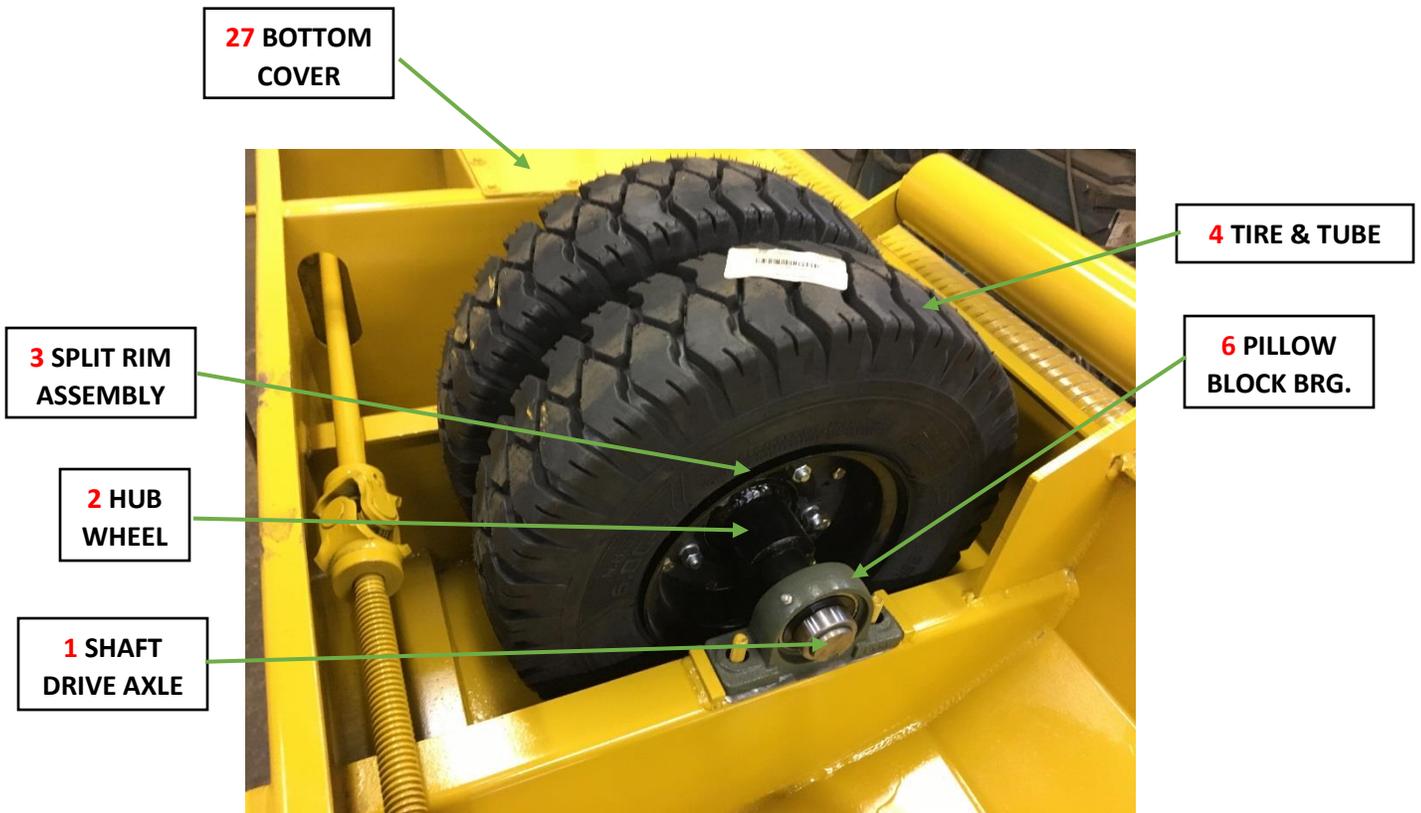
R-1 AGGREGATE CHIP SPREADER

DRIVE TRAIN



R-1 AGGREGATE CHIP SPREADER

DRIVE TRAIN



R-1 AGGREGATE CHIP SPREADER

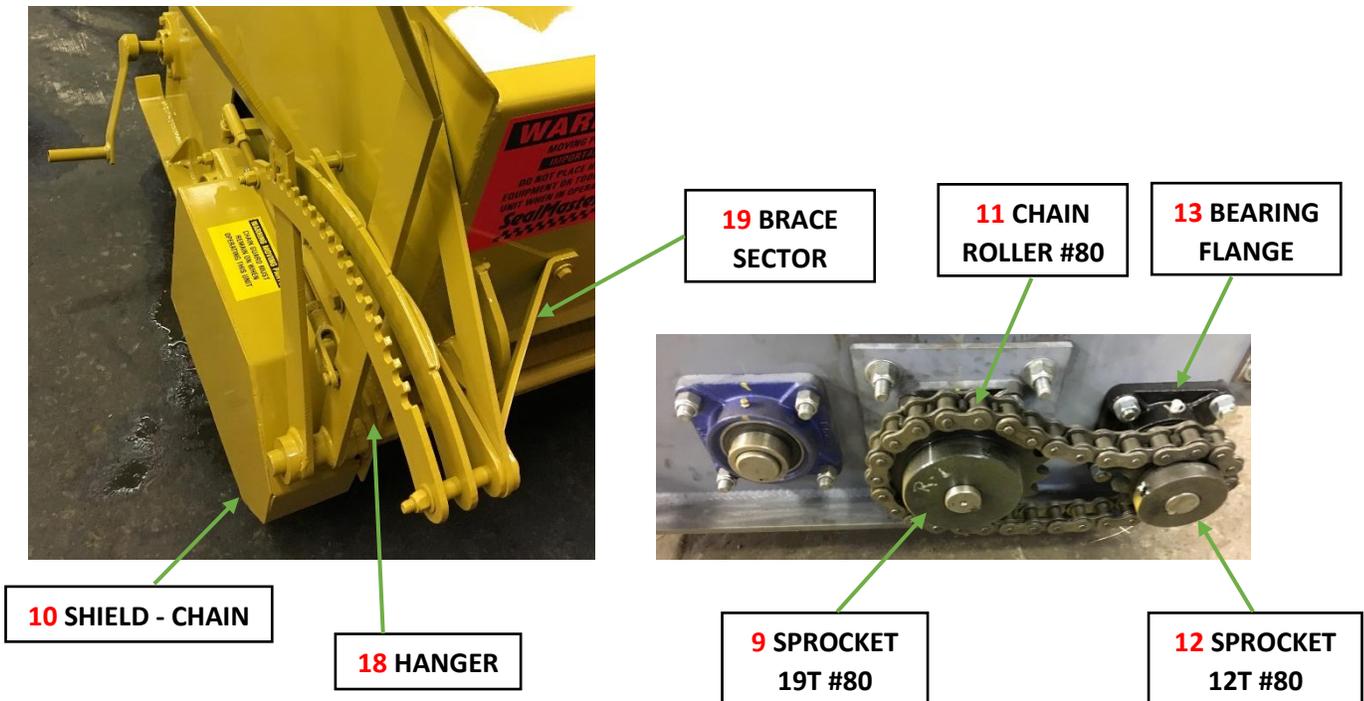
DRIVE TRAIN

PARTS LIST

ITEM	PART NO.	QTY. 10'	DESCRIPTION
1	44696	1	SHAFT – DRIVE AXLE
2	9599	2	HUB – WHEEL
3	P577A003	2	SPLIT RIM ASSEMBLY
4	P576A008	2	WHEEL – TIRE ONLY
	P574A003	2	TUBE
6	P435A004	2	BEARING – PILLOW BLOCK 1-1/2"
7	P630A039	2	HALF CHAIN COUPLING
8	P631A003	1	ASSEMBLY – CHAIN
9	P434A003	2	BEARING – FLANGE 1-1/2"
10	P434A002	2	BEARING – FLANGE 1-1/4"
12	6647	1	CLUTCH GEAR
	P911A003	1	BUSHING – (PART OF 6647)
13	6552	1	CLUTCH - SLIDING
14	10702	1	GEAR – DRIVE
15	10757	1	SPROCKET – DRIVE
16	6176-33	1	CHAIN – ROLLER #80 – 33LINKS
	P1035A004	1	LINK – CONNECTING #80
17	10291	1	SHIFTER SHAFT
18	6651	1	SHIFT YOKE
22	44695B	1	CLUTCH SHAFT – DRIVEN
23	6641	1	CLUTCH – SPROCKET
26	44697	1	SHAFT – DRIVE
27	10292	1	BOTTOM COVER

R-1 AGGREGATE CHIP SPREADER

DRIVE TRAIN AND SHIFTER



R-1 AGGREGATE CHIP SPREADER

DRIVE TRAIN AND SHIFTER

14 FEED ROLLER 10'



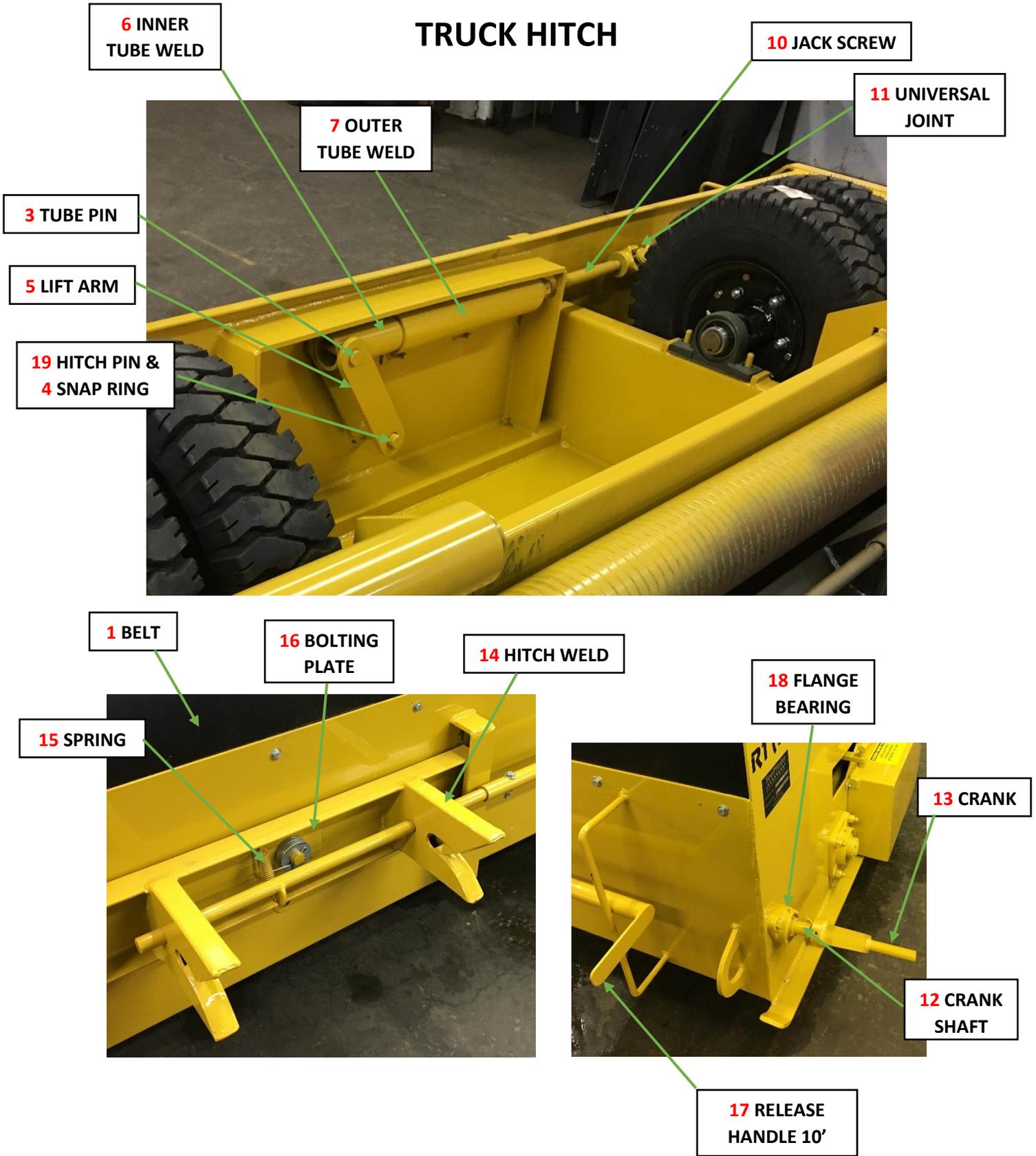
20 FEED GATE 10'

PARTS LIST

ITEM	PART NO.	QTY.	DESCRIPTION
1	2128	5	SPACER 3/8 PIPE X 7/8
2	44814	2	BAR – SECTOR BACKING
3	44719	1	SECTOR – FEED GATE
4	10273	1	WELDMENT - CLUTCH LEVER SECTOR
5	9079A	1	WELDMENT - LEVER
6	10274	1	ASSEMBLY – SHIFT LINKAGE
6A	P495A001	1	BALL JOINT
6B	10272	1	ROD
6C	P1057A002	1	JAM NUT
6D	P1024A002	1	YOKE
7	P1034A007	1	PIN – CLEVIS 1/2" DIA X 1-3/4"
9	P429A016	1	SPROCKET 19T #80
10	9071	1	SHIELD – CHAIN
11	6176-37	1	CHAIN – ROLLER #80
	P1035A004	1	LINK CONNECTOR
12	P429A017	1	SPROCKET 12T #80
13	P434A002	1	BEARING – FLANGE
14	45123	1	WELDMENT – FEED ROLLER 10'
15	9089	1	WELDMENT – SHIFT LEVER
16	44718	2	HANDLE – FEED GATE
18	9078	1	HANGER – END LH
19	44720	2	BRACE - SECTOR
20	44712	1	FEED GATE WELDMENT 10'

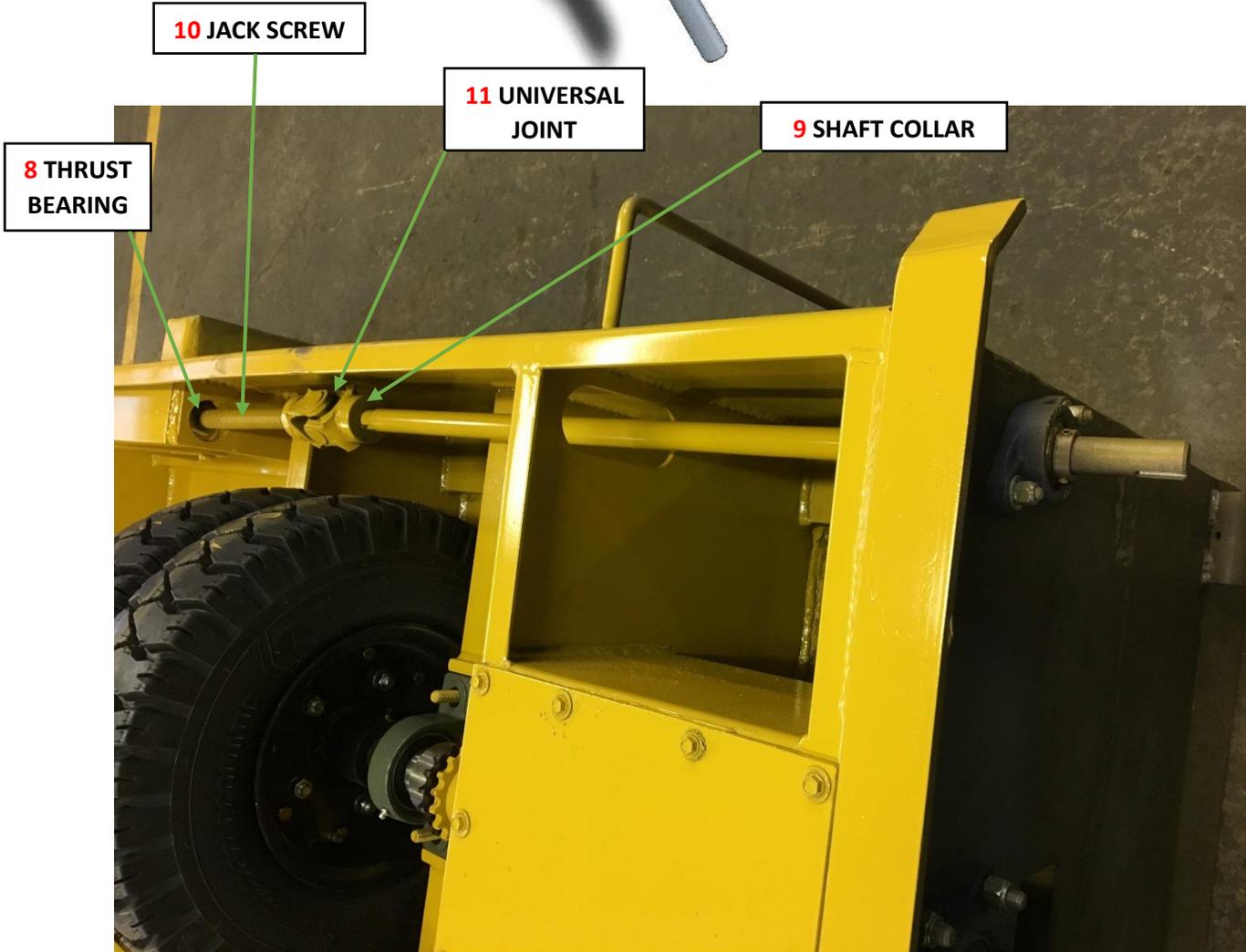
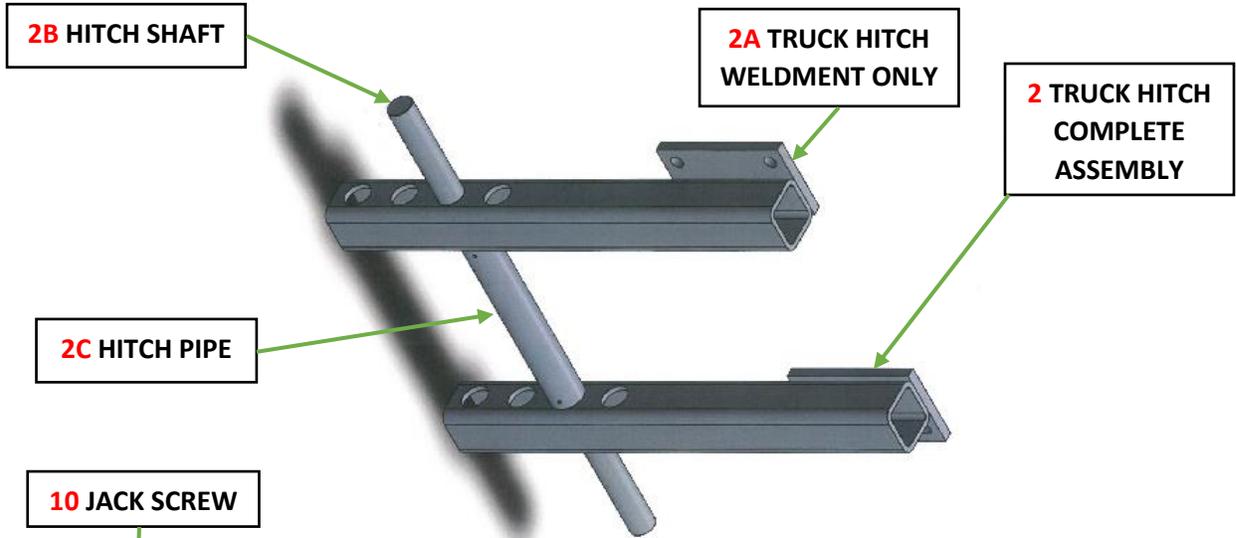
R-1 AGGREGATE CHIP SPREADER

TRUCK HITCH



R-1 AGGREGATE CHIP SPREADER

TRUCK HITCH



R-1 AGGREGATE CHIP SPREADER

TRUCK HITCH

PARTS LIST

ITEM	PART NO.	QTY.	DESCRIPTION
1	44723	1	BELT – 10'
2	44731	1	TRUCK HITCH – (COMPLETE)
2A	44732	1	WELDMENT – TRUCK HITCH
2B	44736	1	HITCH SHAFT
2C	44734	1	HITCH PIPE
3	6892	1	SUPPORTING TUBE PIN
4	P1046A001	3	SNAP RING
5	6889	1	LIFT ARM WELDMENT
6	6885	1	INNER TUBE WELDMENT
7	44685	1	OUTER TUBE WELDMENT
8	P439A002	1	THRUST BEARING
9	6895	3	SHAFT COLLAR
10	9082	1	JACK SCREW
11	22464	1	UNIVERSAL JOINT
12	6930	1	CRANK SHAFT – 10'
13	10271	1	CRANK
14	44682	1	HITCH WELDMENT
15	P589A002	1	SPRING
16	6899	1	BOLTING PLATE
17	6962	1	RELEASE HANDLE – 10'
18	P432A002	1	FLANGE BEARING
19	6898	1	PIN - HITCH

R-1 AGGREGATE CHIP SPREADER AUGER



17 TILTING HANDLE

2 AUGER CLUTCH ASSEMBLY

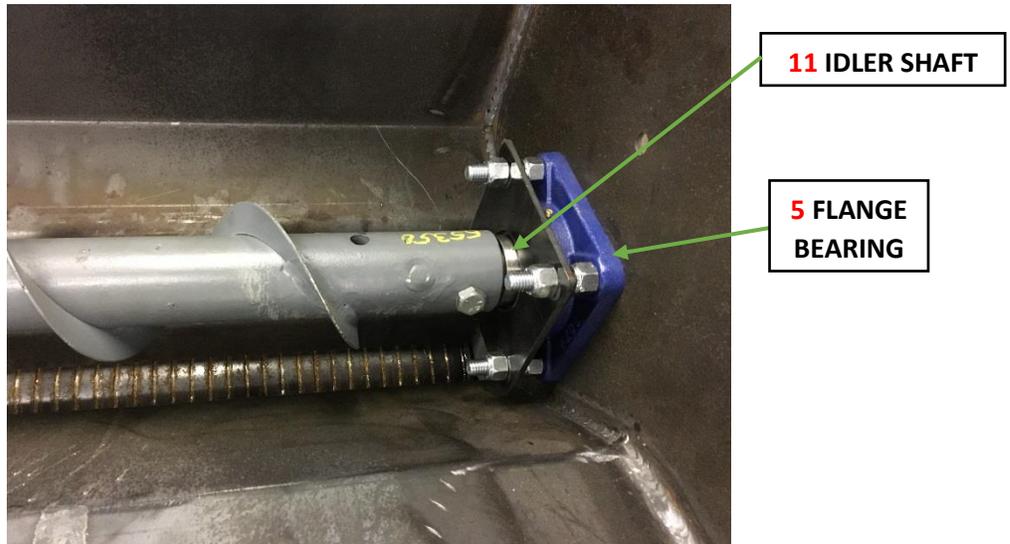
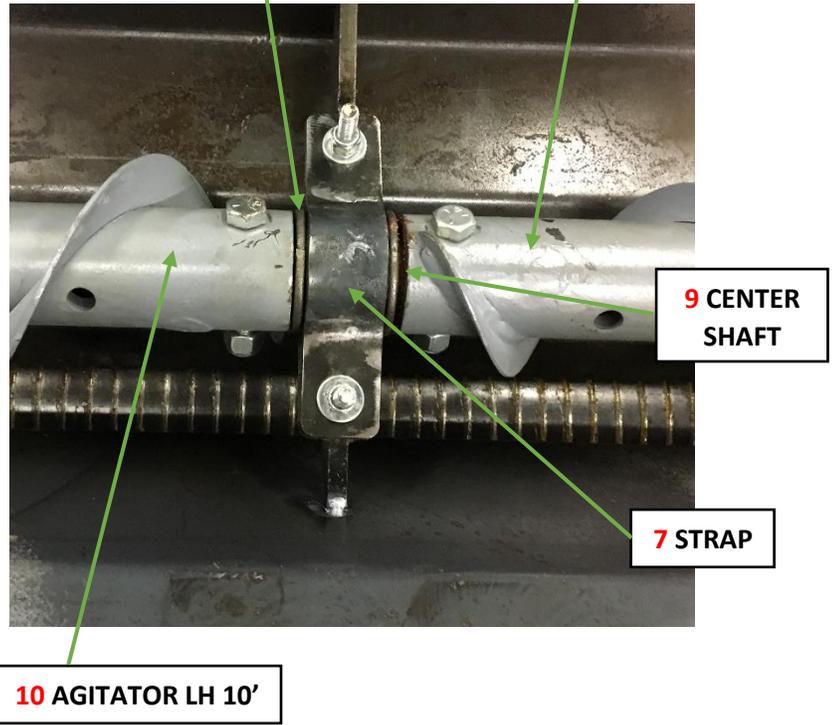
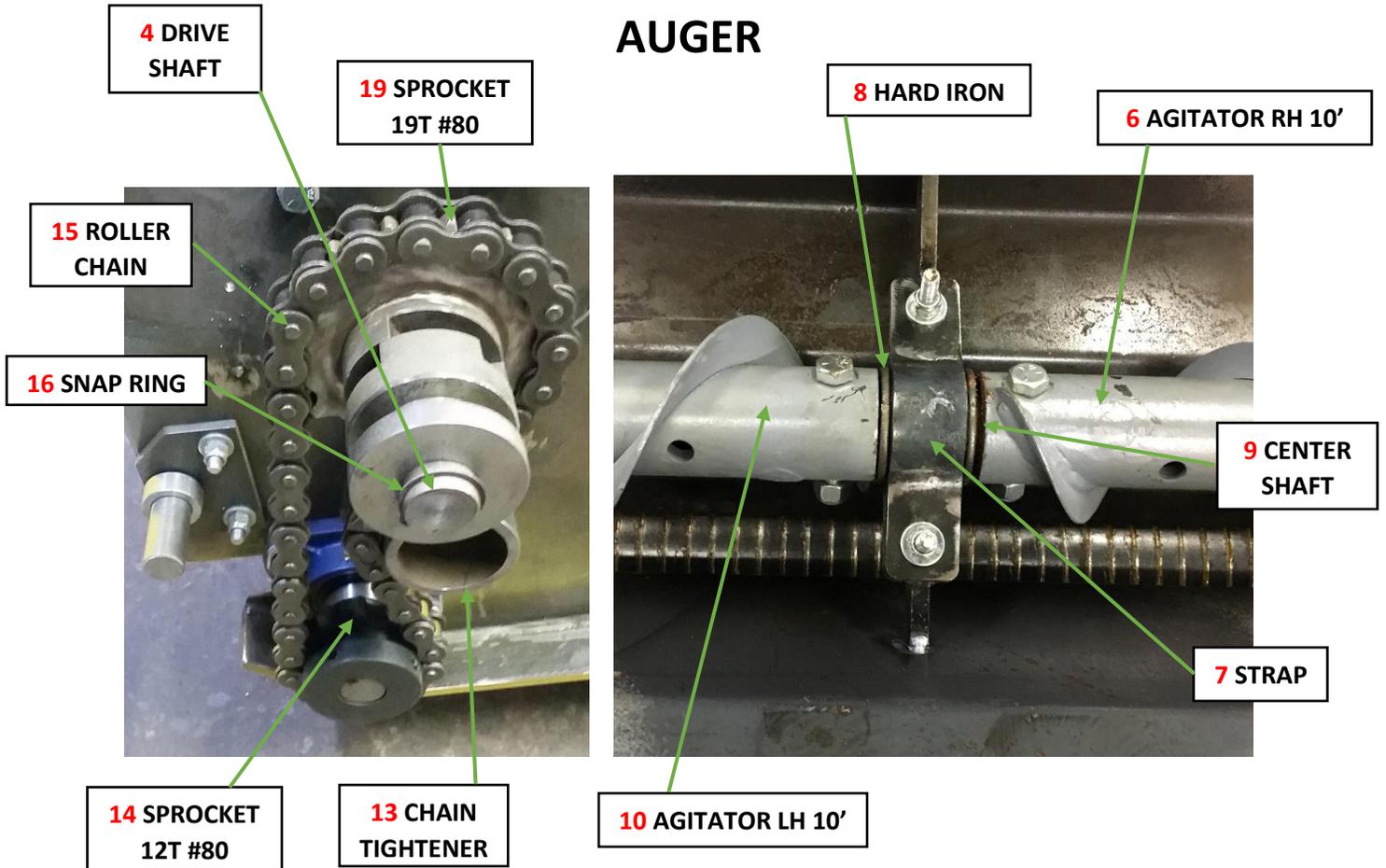
3 BRONZE BEARING

4 DRIVE SHAFT

1 CHAIN SHIELD

R-1 AGGREGATE CHIP SPREADER

AUGER



R-1 AGGREGATE CHIP SPREADER

AUGER

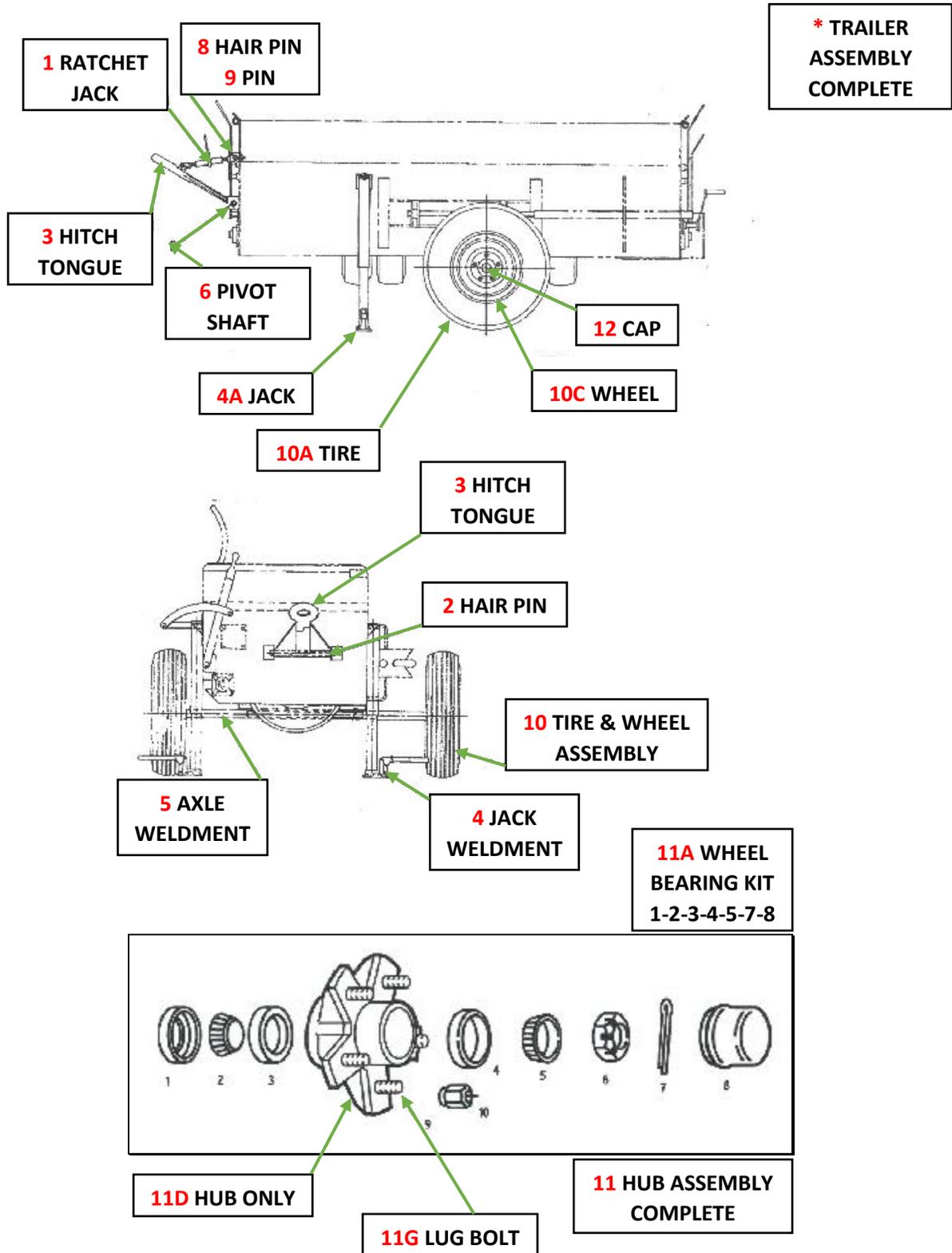
PARTS LIST

*ITEMS 3 THRU 4 INCLUDED IN ITEM 2

ITEM	PART NO.	QTY.	DESCRIPTION
1	11497	1	WELDMENT – CHAIN SHIELD
2	44799*	1	AUGER CLUTCH ASSEMBLY COMPLETE
3	44800	1	BEARING – BRONZE
	44801	1	SLIDING JAW
	44802	1	SHIFTER YOKE
	44803	1	CLUTCH HANDLE
4	10297	1	SHAFT – DRIVE
5	P434A003	2	BEARING – FLANGE
6	6705	1	AGITATOR RH 10'
7	29065	1	STRAP – BEARING
8	6344	1	BEARING – HARD IRON
9	44797	1	SHAFT – CENTER
10	6706	1	AGITATOR LH 10'
11	44798	1	SHAFT – IDLER
13	44690	1	CHAIN TIGHTENER
14	P429A017	1	SPROCKET 12T #80
15	6176-35	1	CHAIN – ROLLER #80
	P1035A004	1	LINK – CONNECTING
16	P1046A002	2	SNAP RING
17	6832	2	HANDLE – TILTING
19	P429A016	1	SPROCKET 19T #80

R-1 AGGREGATE CHIP SPREADER

TRAILER ASSEMBLY- **OPTIONAL**



R-1 AGGREGATE CHIP SPREADER

TRAILER ASSEMBLY- **OPTIONAL**

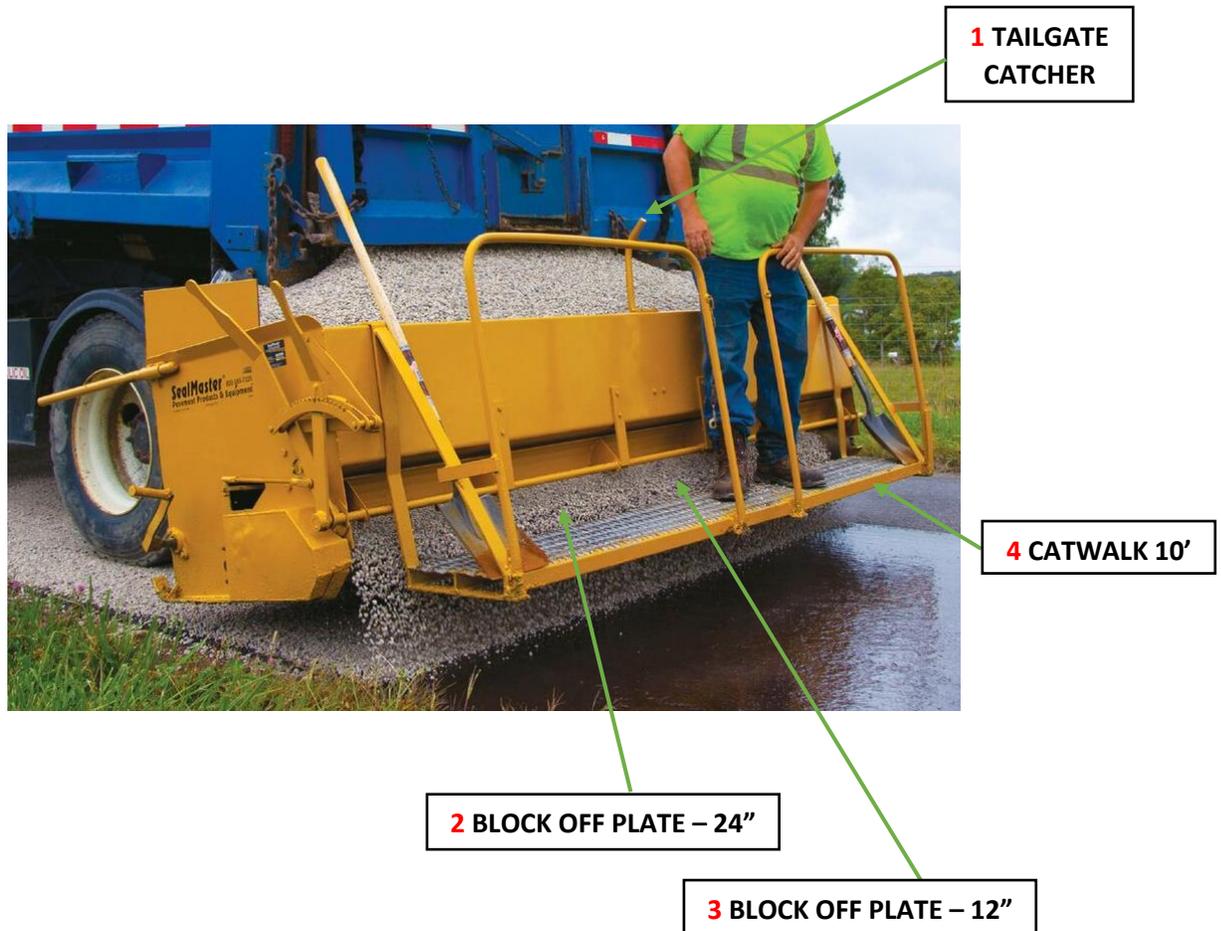
PARTS LIST

ITEM	PART NO.	QTY.	DESCRIPTION
*	10289		TRAILER ASSEMBLY – COMPLETE
1	P697A001	1	RATCHET JACK
2	P1045A004	2	HAIR PIN
3	10268	1	HITCH TONGUE
4	44765	2	JACK WELDMENT – HYD.
4A	P692A002	2	JACK ONLY
5	44825	1	AXLE – WELDMENT
6	44774	1	PIVOT SHAFT
8	P1045A004	1	HAIR PIN
9	11450	1	PIN
10	P514A015	2	TIRE & WHEEL ASSEMBLY
10A	P576A010	1	TIRE ST 205/75 R14
10C	P577A012	1	WHEEL 14 X 5-1/2 JJ
11	P578A011	2	HUB ASSEMBLY
11A	P952A003	1	WHEEL BEARING KIT
	P1028A001	2	SLOTTED NUT- ITEM 6
11D	P578A012	1	HUB ONLY
11G	P579A005	5	LUG BOLT
12	P750A002	2	HUB - CAP

* INCLUDES ITEMS 1-12

R-1 AGGREGATE CHIP SPREADER

OPERATOR'S PLATFORM



PARTS LIST

ITEM	PART NO.	QTY.	DESCRIPTION
1	44674	1	TAILGATE CATCHER
2	44738B	*	BLOCK OFF PLATE – 24" OPTIONAL
3	44737B	*	BLOCK OFF PLATE – 12" OPTIONAL
4	44743C	1	CATWALK – 10'

* AS REQUIRED