Disc Harrow Disc Seeder

DHDS Series

Operator's Manual

Rel. 05/24

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TO THE DEALER:

Assembly and proper installation of this product is the responsibility of the Tar River dealer. Read manual instructions and safety rules. Make sure all items on the Dealer's Pre-Delivery and Delivery Check Lists in the Owner's/Operator's Manual are completed before releasing equipment to the owner.

TO THE OWNER:

Read this manual before operating your Tar River equipment. The information presented will prepare you to do a better and safer job. Keep this manual handy for ready reference. Require all operators to read this manual carefully and become acquainted with all the adjustment and operating procedures before attempting to operate. Replacement manuals can be obtained from your selling dealer. The equipment you have purchased has been carefully engineered and manufactured to provide dependable and satisfactory use. Like all mechanical products, it will require cleaning and upkeep. Lubricate the machine as specified. Observe all safety information in this manual and safety decals on the equipment. For service, your authorized Tar River dealer has trained mechanics, genuine Tar River service parts, and the necessary tools and equipment to handle all your needs. Use only genuine Tar River service parts. Substitute parts will void the warranty and may not meet standards required for safe and satisfactory operation.

Record your machine model and serial number in the space provide below. Your dealer will need this information to give you prompt, efficient service.

Model Number: _____

Serial Number: _____

Date Purchased: _____

Table of Contents

Introduction

Thank you for purchasing your DHDS Disc Harrow Disc Seeder. The DHDS is a durable disc harrow with seeder. It is equipped with 7 disc heads in the front and back, which efficiently cuts and pulverizes the soil, creating an ideal seedbed for optimal germination. With its adjustable disc heads and precise seed metering system, the DHDS provides accurate and uniform seed distribution.

Technical Specifications

Model:	DHDS-63
Working Width	**63”**
Working Depth	**3” - 4”**
Min HP Req.	**25 HP**
Front Cups/Rear Cups	**7**
Cat. Hitch	**1**
Weight	**803 lbs.**

Important Safety Information

Safety

It is important that you read the entire manual and to become familiar with this product before you begin using it. This product is designed for certain applications only. The manufacturer cannot be responsible for issues arising from modification. We strongly recommend this product not be modified and /or used for any application other than that for which it is designed. If you have any questions relative to a particular application, DO NOT use the product until you have first contacted us to determine if it can or should be performed on the product.

Read and understand this manual and all safety signs before operating and maintaining . Review the safety instructions and precautions annually.

Safety Signal Words

TAKE NOTE! This safety alert symbol found though out this manual is used to call you attention to instructions involving you personal safety and the safety of others. Failure to follow these instructions can result in injury or death.

This symbol means:
Attention!
Become alert!
Your safety is involved!

Note the use of the signal words, DANGER, WARNING and CAUTION with the safety messages. The appropriate signal word for each has been selected using the following guidelines:

DANGER: Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations typically for machine components which, for functional purposes, cannot be guarded.

WARNING: Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.

CAUTION: Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

Important Safety Information

General Safety Guidelines

Safety of the operator is one of the main concerns in designing and developing a new piece of equipment. Designers and manufacturers build in as many safety features as possible. However, every year many accidents occur which could have been avoided by a few seconds of thought and a more careful approach to handling equipment. You, the operator, can avoid many accidents by observing the following precautions in this section. To avoid personal injury, study the following precautions and insist those working with you, or for you, follow them.

Replace any DANGER, WARNING, CAUTION or instruction safety decal that is not readable or is missing. Location of such decals are indicated in this manual. Do not attempt to operate this equipment under the influence of drugs or alcohol.

Review the safety instructions with all users annually.

This equipment is dangerous to children and persons unfamiliar with its operation. The operator should be a responsible adult familiar with farm machinery and trained in this equipment's operations. **Do not allow persons to operate or assemble this machine until they have read this manual and have developed a thorough understanding of the safety precautions and of how it works.**

To prevent injury of death, use a tractor equipped with a Roll Over Protection System (ROPS). Do not paint over, remove or deface any signs or warning decals on your equipment. Observe all safety signs and practice the instructions on them.

Never exceed the limits of a piece of machinery. If its ability to do a job, or to do so safely, is in question - **Don't try it!**

Safety Decal Care

- Keep safety signs clean and legible at all times.
- Replace safety signs that are missing or have become illegible.
- Replaced parts that displayed a safety sign should also display the current safety sign
- Safety signs are available from your Distributor or Dealer Parts Department or the factory.

Important Safety Information

How to install Safety Signs:

- Be sure that the installation area is clean and dry.
- Decide on the exact position before you remove the backing paper.
- Remove the smallest portion of the split backing paper.
- Align the decal over the specified area and carefully press the small portion with the exposed sticky backing in place.
- Slowly peel back the remaining paper and carefully smooth the remaining portion of the decal in place.
- Small air pockets can be pierced with a pin and smoothed out using the piece of decal backing paper.

Before Operation

- Carefully study and understand this manual.
- Do not wear loose-fitting clothing, which may catch in moving parts.
- Always wear protective clothing and substantial shoes.
- Assure that all tires are inflated evenly.
- Give the machine a visual inspection for any loose bolts, worn parts or cracked welds, and make necessary repairs. Follow the maintenance safety instructions included with this manual.
- Be sure that there are no tools lying on or in the equipment.
- Do not use the machine until you are sure that the area is clear, especially of children and animals.
- Don’t hurry the learning process or take the machine for granted. Ease into it and become familiar with your new equipment.
- Practice operation of your equipment and its attachments. Completely familiarize yourself and other operators with its operation before using.
- Use a tractor equipped with a Roll Over Protection System (ROPS) and fasten your seat belt prior to starting engine.
- The manufacturer does not recommend usage of tractor with ROPS removed.
- Move tractor wheels to the widest recommended settings to increase stability.
- Securely attach to towing unit. Use a high strength, appropriately sized hitch pin with a mechanical retainer and attach safety chain.
- Do not allow anyone to stand between the tongue or hitch and the towing vehicle when backing up to the equipment.
- Do not use the machine until you are sure that the area is clear, especially of children and animals.

Important Safety Information

During Operation

- Children should not be allowed on the product.
- Clear the area of small children and bystanders before moving the machine.
- If using a towing unit, securely attach machine by using a hardened 3/4" pin, a metal retainer, and safety chains if required. Shift towing unit to a lower gear before going down steep downgrades, thus using the engine as a retarding force. Keep towing vehicle in gear at all times. Slow down for corners and rough terrain.
- Make sure you are in compliance with all local and state regulations regarding transporting equipment on public roads and highways. Lights and slow moving signs must be clean and visible by overtaking or oncoming traffic when machine is transported.
- Beware of bystanders, **particularly children!** Always look around to make sure that it is safe to start the engine of the towing vehicle or move the machine. This is particularly important with higher noise levels and quiet cabs, as you may not hear people shouting.
- **NO PASSENGERS ALLOWED!** Do not carry passengers anywhere on, or in, the tractor or equipment, except as required for operation.
- Keep hands and clothing clear of moving parts.
- Do not clean, lubricate or adjust your equipment while it is moving.
- When halting operation, even periodically, set the tractor or towing vehicle brakes, disengage the PTO, shut off the engine and **remove the ignition key.**
- Be especially observant of the operating area and terrain. Watch for holes, rocks or hidden hazards. Always inspect the area prior to operation.
- **DO NOT** operate near the edge of drop-offs or banks.
- **DO NOT** operate on steep slopes as overturns may result.
- Operate up and down (not across) intermediate slopes. Avoid sudden starts and stops.

WARNING: <u>Never</u> backup with the machine on the ground! This will cause damage to the machine. <u>*Always*</u> lift the machine high enough to clear the ground before backing up.

Important Safety Information

Highway and Transport Operations

- Adopt safe driving practices.
- Keep the brake pedals latched together at all times. **Never use independent braking with machine in tow as loss of control and/or upset of machine can result.**
- Always drive at a safe speed relative to local conditions and ensure that your speed is low enough for an emergency stop to be safe and secure. Keep speed at a minimum.
- Reduce speed prior to turns to avoid the risk of overturning.
- Avoid sudden uphill turns on steep slopes.
- Always keep the tractor or towing vehicle in gear to provide engine braking when going downhill. Do not coast.
- Do not drink and drive!
- Comply with state and local laws governing highway safety and movement of farm machinery on public roads.
- Use approved accessory lighting flags and necessary warning devices to protect operators of other vehicles on the highway during daylight and nighttime transport. Various safety lights and devices are available from your dealer.
- The use of flashing amber lights is acceptable in most localities. However, some localities prohibit their use. Local laws should be checked for all highway and marking requirements.
- When driving the tractor and equipment on the road or highway under 40 kph (20 mph) at night or during the day, use the amber warning lights and a slow moving vehicle (SMV) identification emblem.
- Plan your route to avoid heavy traffic.
- Be a safe and courteous driver. Always yield to oncoming traffic in all situations, including narrow bridges, intersections, etc.
- Be observant of bridge loading ratings. Do not cross bridges rated at lower than the gross weight at which you are operating.
- Watch for obstructions overhead and to the side while transporting.
- Always operate in a position to provide maximum visibility at all times. Make allowances for increased length and weight of the equipment when making turns, stopping the machine, etc.
- Pick the most level route when transporting across fields. Avoid the edges of ditches or gullies and steep hillsides.
- Be extra careful when working in inclines.

Important Safety Information

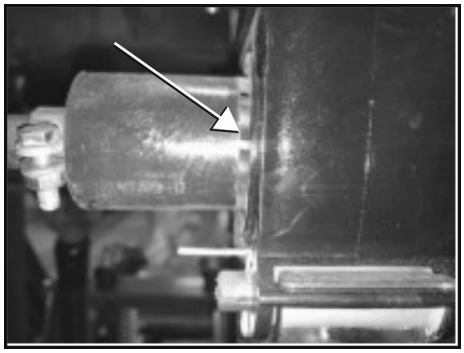
Highway and Transport Operations

- Maneuver the tractor or towing vehicle at safe speeds.
- Avoid overhead wires or other obstacles. Contact with overhead lines could cause serious injury or death.
- Avoid loose fill, rocks and holes, they can be dangerous for equipment operation or movement.
- Allow for machine length when making turns,
- Operate the towing vehicle from the operator's seat only.
- Never stand alongside of machine with engine running or attempt to start engine and/or operate machine while standing alongside of machine.
- Never leave running equipment attachments unattended.
- As a precaution, always recheck the hardware on equipment following every 100 hours of operation. Correct all problems. Follow the maintenance safety procedures.

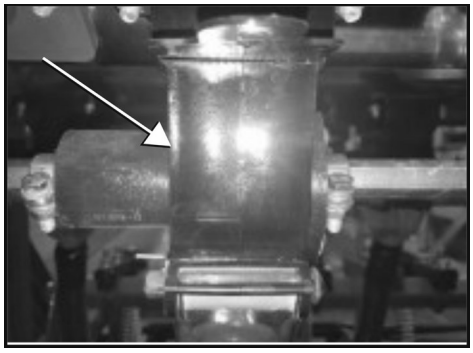
Operating Instructions

Before beginning work:

- Be sure all the seed cups completely close and open the same, so all cups are putting out the exact amount of seed. If they are not in sync, one cup will put out more than others.
- Ensure when completely closed, the seeding gears are not protruding from the outside the cup.
- Adjust the clamps to ensure all cups close and open completely and uniformly.



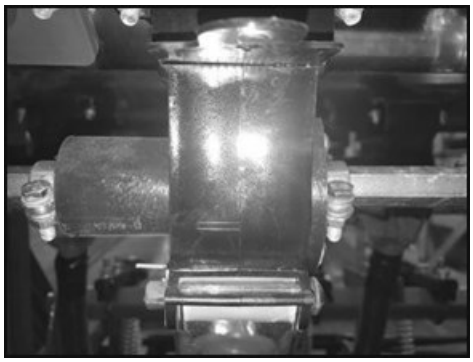
NOT FLUSH—GEARS PROTRUDING



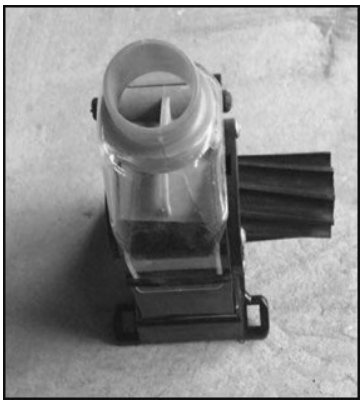
FLUSH—GEARS NOT PROTRUDING

To adjust seed output:

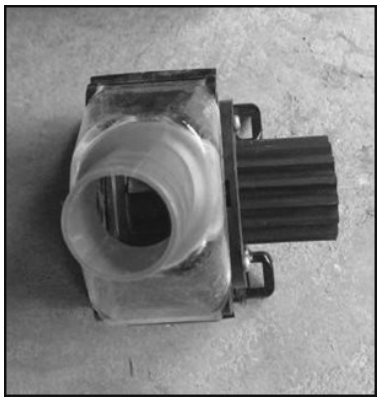
The Seed cups on the DHDS may come with either of two different style of seed cups or a combination of both. Typically the front Seed box section is equipped with a LARGE SEED CUP and the rear section typically has the LEGUME SEED BOX.



The LARGE SEED front section is usually driven with an 11-26 Gear ratio, while the back LEGUME SEED section is being reduced to put out less with a 12-40 Gear Ratio.



Large seed cup box - front

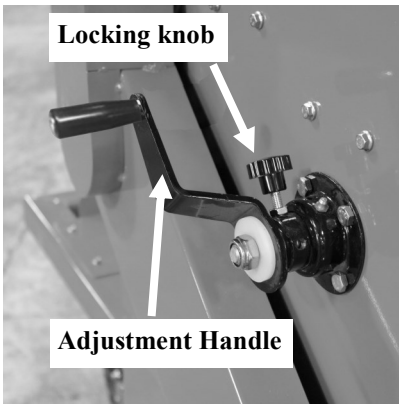


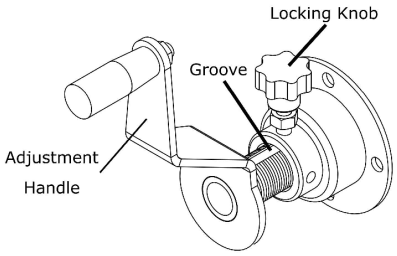
Legume seed cup box - rear

Operating Instructions

Seeding/Fertilizing rate adjustment handle:

To adjust the seed/fertilizer rate, loosen the Locking Knob before attempting to adjust the feed rate. Note that the Locking Knob sits in a groove on the Adjustment Handle. Loosen the Locking Knob to the point where it clears the threads of the Adjustment Handle. When tightening the Locking Knob, be sure it sits in the grove (refer to image below) or the threads will be damaged. The seed/fertilize rate depends on the seed/fertilizer you want to plant, please refer to your seed/ fertilizer supplier's chart to get the proper seed/fertilize rate.





Important!

- When tightening the Locking Knob, make sure it is seated in the groove on the Adjustment Handle.
- Do not tighten the Locking Knob on the threaded portion of the Adjustment Handle!

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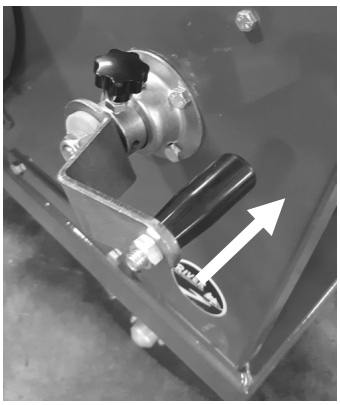
NOTE: The Seed Rate Handle is turned in for "Transport" purposes. Before operating the machine, remove the nut from the handle (**Transport Position**), flip the handle to face away from the seeder (**Work Position**), thread nut on handle and tighten before making adjustments to the seeder.



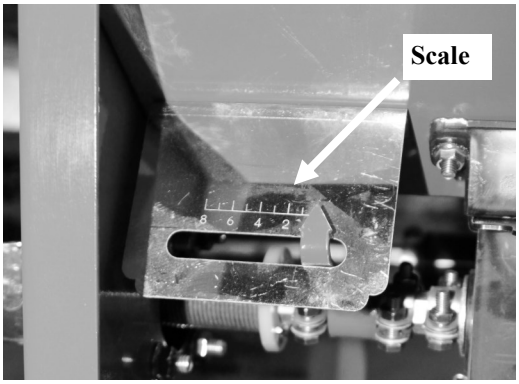
Transport Position

Work Position

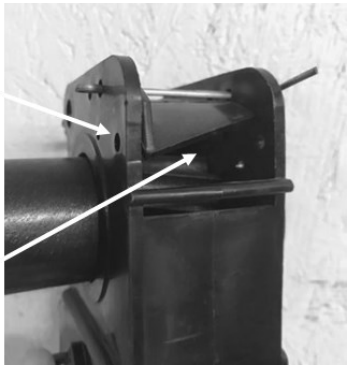
Important: Tighten Locking Knob on Adjustment Handle before operating.

Operating Instructions

Before adjusting the seed rate, return the rate on the Scale to zero by cranking the Adjustment Handle, then check and make sure all seeding/fertilizing wheels are fully closed on all seeding/ fertilizing boxes. (SEE BEFORE BEGINNING section) If not, you need to loosen the clips on both sides of the seeding/fertilizing wheel and push the wheel into the box. Tighten the clips. When the seeding/fertilizing box is closed and the meter indicates “0”. Adjust fertilizing rate by cranking the Adjustment Handle. The meter has 8 numbers from 0-8, from zero to Maximum.



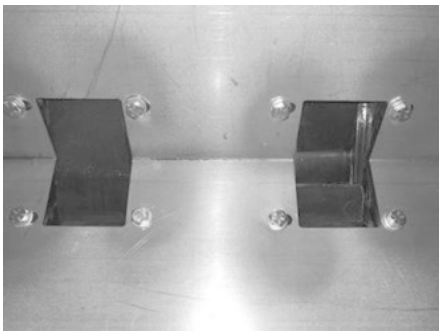
Weight, size, relative humidity, and moisture content can affect seeding rates. Users can adjust the position of the seed/fertilizer “TONGUE” and lock in different positions by moving the cotter pin to meet the different seeding/fertilizing size. The smaller the seed, the higher up the “TONGUE” should be positioned. For larger seed, the “TONGUE” should be opened more.



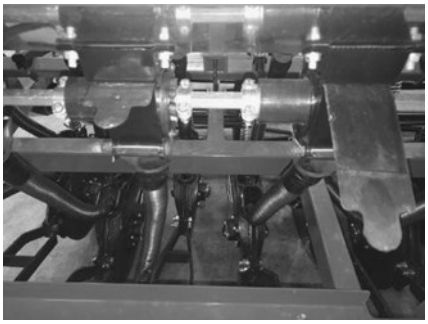
Operating Instructions

Seed cup shutoff:

Depending on the crop being planted, it may be necessary to not disburse from all of the seed cups. This is easily done by simply sliding the "Seed shut off flap" in and out.



Closed **Open**



Closed **Open**

Seed depth - Disc Support Bar
The top link on the tractor hitch should be properly adjusted to carry the machine level in an operating position. During operation, the tractor lift must be fully lowered to allow the machine to follow the contour of the ground.

The machine is totally ground driven so proceed with a speed that is most comfortable and safe for existing conditions. Be sure to stop forward motion before lifting the machine off the ground. This practice will stop rollers from "free spinning' and therefore eliminate the unwanted application when turning around. Never operate the machine in reverse.

Warning: Never backup with the machine on the ground! This will cause damage to the machine. *Always* lift the machine high enough to clear the ground before backing up.

Lubrication and Maintenance

Important: It is important to thoroughly clean the seeder after use. Failure to do so can cause irreparable damage to the seed cups and drive system. Grease and turn the Seed adjustment handle to ensure grease lubricates the threads.

There are a few ways to clean out the hoppers:

- Each hopper is equipped with a cleanout spout in the front of each hopper.
- The rear hopper is equipped with a quick release lever located under the center of the hopper. By pulling down the lever, all the hopper tongues will open and cause the seed/fertilizer to drop out of each of the seed cups.
- Each seed cup can be emptied individually by pulling the cotter pin on the side of the cup and dropping down the hopper tongue.

1 Hour Check all fasteners and hardware including set screws in sprockets and bearing collars and re-tighten as necessary.

8 Hours Grease bearings on roller and apply grease to torsion bar wheel mechanism.

As needed: Remove any crop residue, grasses, weeds, or debris wrapped around shaft discs or rollers. This can cause bearings to overheat and lead to premature failure.

Always: Protect the machine from weather. NEVER leaver fertilizer in hopper. Do not leave seed in hopper for more than 24 hours. Remove all fertilizer and seeds from hopper. Thoroughly clean hoppers and lubricate all drive chains before storage.

Setting Application Rates

The most accurate way to set application rates is to drive a predetermined distance and physically catch the seeds dispensed. To do this, remove at least one drop hose and tie a plastic bag onto bottom of seed cup. Travel a determined distance and then weigh the seeds in the bag. Multiply the amount collected by the number of cups on your machine. Refer to the following example to properly calibrate your machine.

To determine area covered calculate the following:

Disc spacing x number of discs (7 or 10), (convert to ft.) x distance traveled / by the sq. ft. in an acre.
Ex. 10 discs with a 7.5" spacing = 75" (6.25 ft.) x 100 ft. traveled = 625 sq. ft. covered.
625 / 43,560 sq. ft. in acre = .0143 (1.43% of acre covered.)

If you collect 1 oz. of seed from a single seed cup on the #3 setting after driving 100 ft. (1.43% of an acre), you are putting out 43.70 lbs. per acre.

1 oz. (amount collected) x number of seed cups (7 or 10)
Ex. 10 seed cups = 10 oz. total output by machine. Distance traveled = 100 ft. (1.43% of acre)
1 oz / 16 oz (16 oz in 1 lb.) = .0625 / .0143 = 4.37 x 10 disc = 43.70 lbs. per acre

NOTE: The tables and rate charts are guidelines only! They are designed to be an aid as a starting point. You must do your own calibration as many factors cause rates to change. Variations in seed/ granular size, density, moisture, seed treatment, and the amount of machine overlap will affect the final application rate.

See next page for "Application Rate Charts".

Application Rate Charts

LARGE SEED CUP 11-26 Gear Ratio

Cup Setting	1/2	1	2	3	4	5
Chufa				40	50	
Oats				65		125
Wheat				60	90	120
Lawn Mixtures					100	130
Fescue					114	138
Rye			72			
Pelletized Lime		50				
Shut off every other seed cup						
Sunflower 15” row				22	32	
Soybeans 15” row			50			
Shut off ever 2 other seed cups						
Corn 22.5” row				20	35	

Approximate Pounds Per Acre

25.5 rotations of the drive roller = 100 Feet

SMALL SEED CUP 12-40 Gear Ratio

Cup Setting	1/2	1	2	3	4	5
Clover/Brassica/Rape	6					
Sorghum/Millet		15		30		
Alfalfa			20			
Buckwheat				50		
Timothy Grass		(1.5 = 10)	15			
Kentucky Blue Grass				30	40	
Radish		10				
Turnips		11				
Rye		7				
Chicory		5				
Alfalfa/Chicory(Food Plot Mix)		10.5				

Approximate Pounds Per Acre

25.5 rotations of the drive roller = 100 Feet

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Torque Specifications

Torque Specifications for Common Bolt Sizes

Inches		Bolt Head Identification						Metric		Bolt Head Identification					
		Grade 2		Grade 5		Grade 8				Class 5.8		Class 8.8		Class 10.9	
Bolt size (inches)	Thread pitch	N.m	ft-lb	N.m	ft-lb	N.m	ft-lb	Bolt size (metric)	Thread pitch	N.m	ft-lb	N.m	ft-lb	N.m	ft-lb
1/4"	20	7	5	11	8	16	12	M5	0.08	4	3	6	4	9	7
1/4"	28	8	6	13	10	19	14	M6	1	6	4	10	7	15	11
5/16"	18	15	11	24	17	33	25	M8	1.25	16	12	25	18	36	27
5/16"	24	17	13	26	19	37	27	M8	1	17	13	26	19	38	28
3/8"	16	27	20	42	31	59	44	M10	1.5	31	23	48	35	71	52
3/8"	24	31	23	47	35	67	49	M10	1.25	33	24	51	38	75	55
7/16"	14	43	32	67	49	95	70	M10	1	35	26	53	39	78	58
7/16"	20	48	36	75	55	106	78	M12	1.75	54	40	84	62	123	91
1/2"	13	66	48	102	75	144	106	M12	1.5	56	41	87	64	128	94
1/2"	20	75	55	115	85	163	120	M12	1.25	59	44	90	66	133	98
9/16"	12	95	70	147	109	208	154	M14	2	84	62	133	98	195	144
9/16"	18	106	79	164	121	232	171	M14	1.5	94	69	142	105	209	154
5/8"	11	132	97	203	150	287	212	M16	2	131	97	206	152	302	223
5/8"	18	149	110	230	170	325	240	M16	1.5	141	104	218	161	320	236
3/4"	10	233	172	361	266	509	376	M18	2.5	181	133	295	218	421	310
3/4"	16	261	192	403	297	569	420	M18	2	196	145	311	229	443	327
7/8"	9	226	167	582	430	822	606	M18	1.5	203	150	327	241	465	343
7/8"	14	249	184	642	473	906	668	M20	2.5	256	189	415	306	592	437
1"	8	339	250	873	644	1232	909	M20	1.5	288	212	454	335	646	476
1"	12	371	273	955	704	1348	995	M22	2.5	344	254	567	418	807	595
1-1/8"	7	480	354	1077	794	1746	1288	M22	1.5	381	281	613	452	873	644
1-1/8"	12	539	397	1208	891	1958	1445	M24	3	444	327	714	526	1017	750
1-1/4"	7	677	500	1519	1120	2463	1817	M24	2	488	360	769	567	1095	808
1-1/4"	12	750	553	1682	1241	2728	2012	M27	3	656	484	1050	774	1496	1103
1-3/8"	6	888	655	1992	1469	3230	2382	M27	2	719	530	1119	825	1594	1176
1-3/8"	12	1011	746	2268	1673	3677	2712	M30	3.5	906	668	1420	1047	2033	1499
1-1/2"	6	1179	869	2643	1949	4286	3161	M30	2	1000	738	1600	1180	2250	1659
1-1/2"	12	1326	978	2974	2194	4823	3557	M36	4	1534	1131	2482	1830	3535	2607

Notes:

This chart is an approximate estimate of torque values.

Always tighten hardware to these values unless a different torque value or tightening procedure is listed for a specific application.

Fasteners must always be replaced with the same grade as specified in the manual.

Always use the proper tool for tightening hardware: SAE for SAE hardware and Metric for Metric hardware.

Make sure that fastener threads are clean and that you properly start thread engagement.

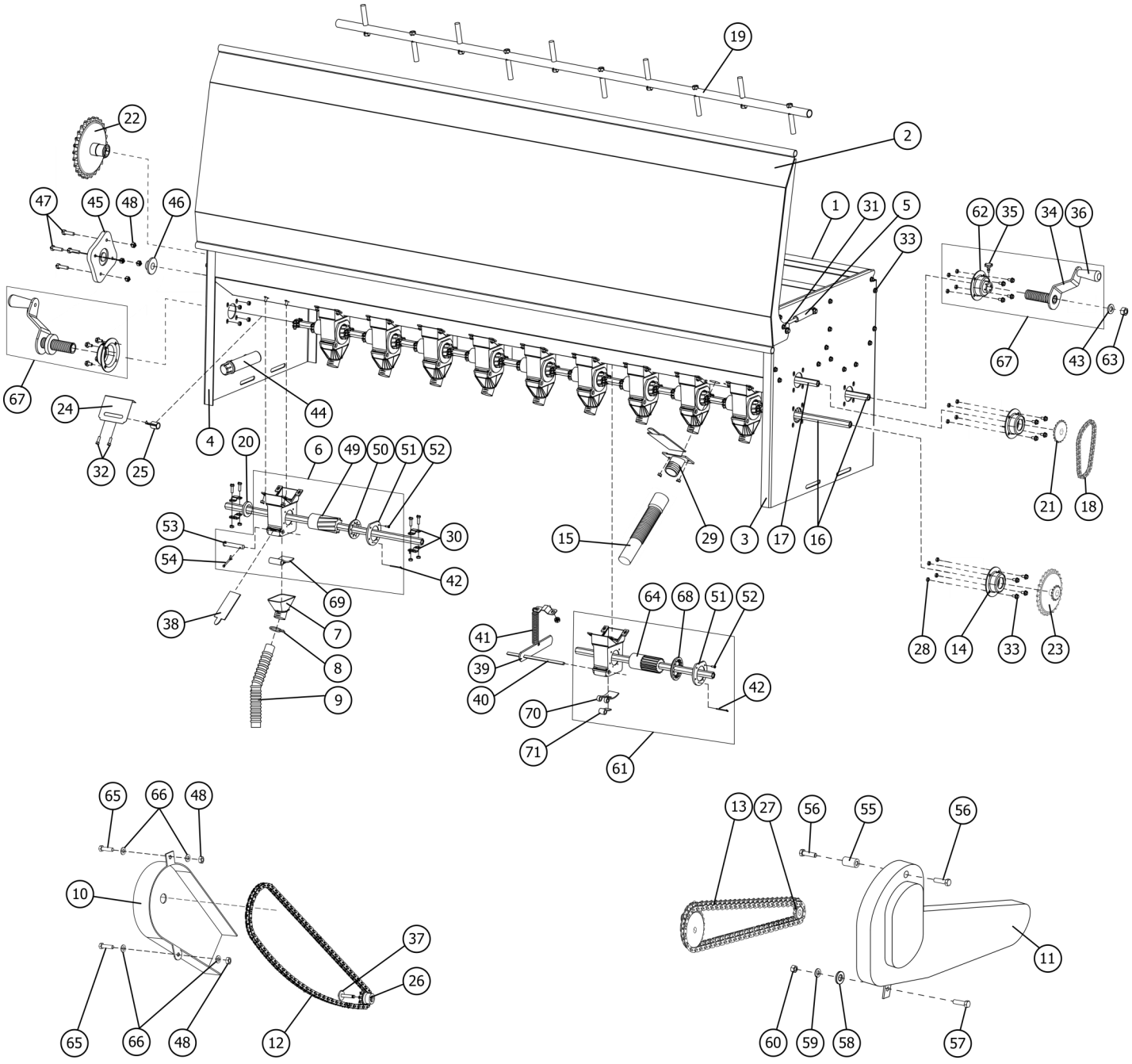
Disc Harrow Disc Seeder

DHDS Series

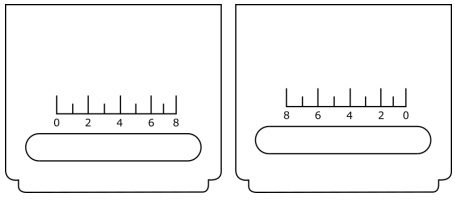
Parts Manual

Rel. 05/24

Hopper Assembly



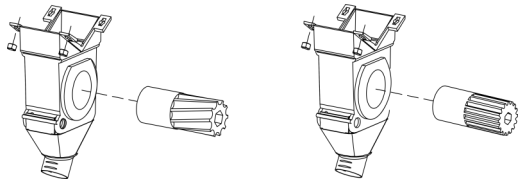
Note 1



LH (rear) RH (front)

Note: The Rate adjustment plates are not the same. LH plate faces the rear of the machine. The RH plate faces the front of the machine.

Note 2



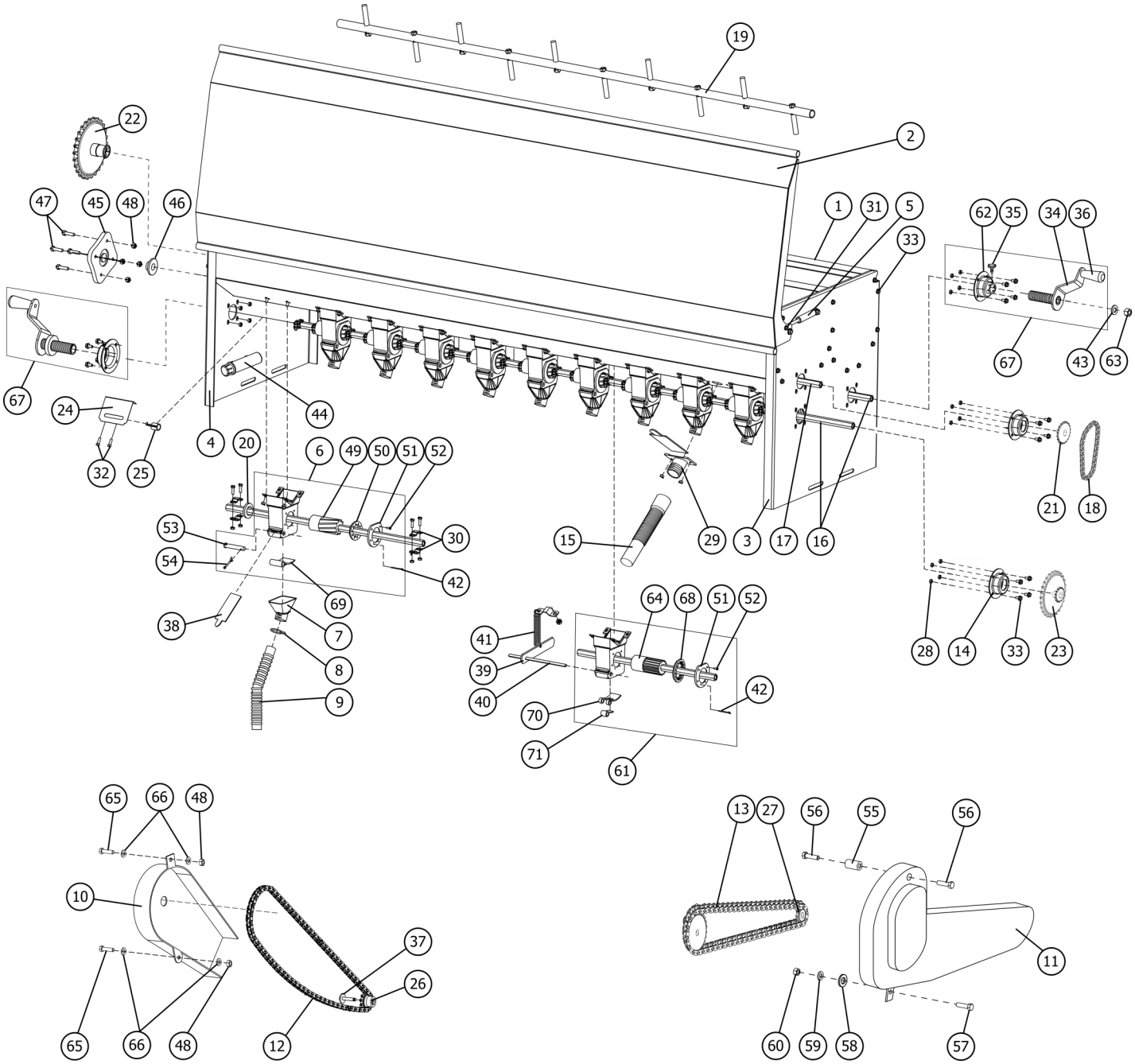
Front cup box Rear cup box

Note: Front and rear seed cup boxes can be identified by examining the shafts. The front seed cup box has spiral splines while the rear has straight splines.

Hopper Assembly

Item	Part #	Description	Qty.
1	SA1003-55	Hopper complete	1
2	SA1001-55	Hopper lid	1
3	SA1004	Hopper end plate, LH	1
4	SA1005	Hopper end plate, RH	1
5	DL5003	Lid piston	2
6	DL7001-L	Seed cup distribution box complete large seed	-
7	DL7006	Seed cup funnel	-
8	SA9005	Tube wire clamps	-
9	SA3002	Fertilizer/seed tube	-
10	DHDS10020	Chain shield, RH	1
11	DHDS10021	Chain shield, LH	1
12	SA3004B	Chain (#40) rear hopper, 127 links	1
13	SA3004A	Chain (#50) front hopper, 126 links	1
14	DL1005	Flange assembly w/bearing	2
15	DL7008	Waste tube	-
16	SA10001-55	Hex seed box shaft	2
17	SA9010-55	Agitator rod	1
18	SA3003	Chain, agitator	1
19	SA9010-78	Agitator rod	1
	SA9011	Fingers & nuts, agitator	-
20	FW18	Washer flat M18	20
21	SA9012	Drive sprocket, agitator 20T	1
22	DL2003	Drive sprocket Z40	1
23	SA4032	Double sprocket 14T/26T	1
24	DL7004A	Rate adjustment face plate (front)	1
	DL7004B	Rate adjustment face plate (rear)	1
25	DL7005	Counter pointer	2
26	DL3005A	Sprocket, 40B16	1
27	DL5005B	Sprocket, 50B12	1
28	LNM0610	Lock nut M06x1.0	252
29	DL1006	Cleanout spout	2
30	DL7002	Distribution box clamp	-
31	BM061016	Bolt HH M06-1.0x16	2
32	BM0812535	Bolt HH M08-1.25x35	4
33	BM061012	Bolt HH M06-1.0x12	131
34	SA2005	Handle assembly	2
35	SA2005K	Locking knob	2
36	SA5005K	Spinning adjustment handle with hardware	1
37	BM0812540	Bolt M08-1.25x40	2
38	DL7007	Waste/Seed/Fertilizer shut off flap	-

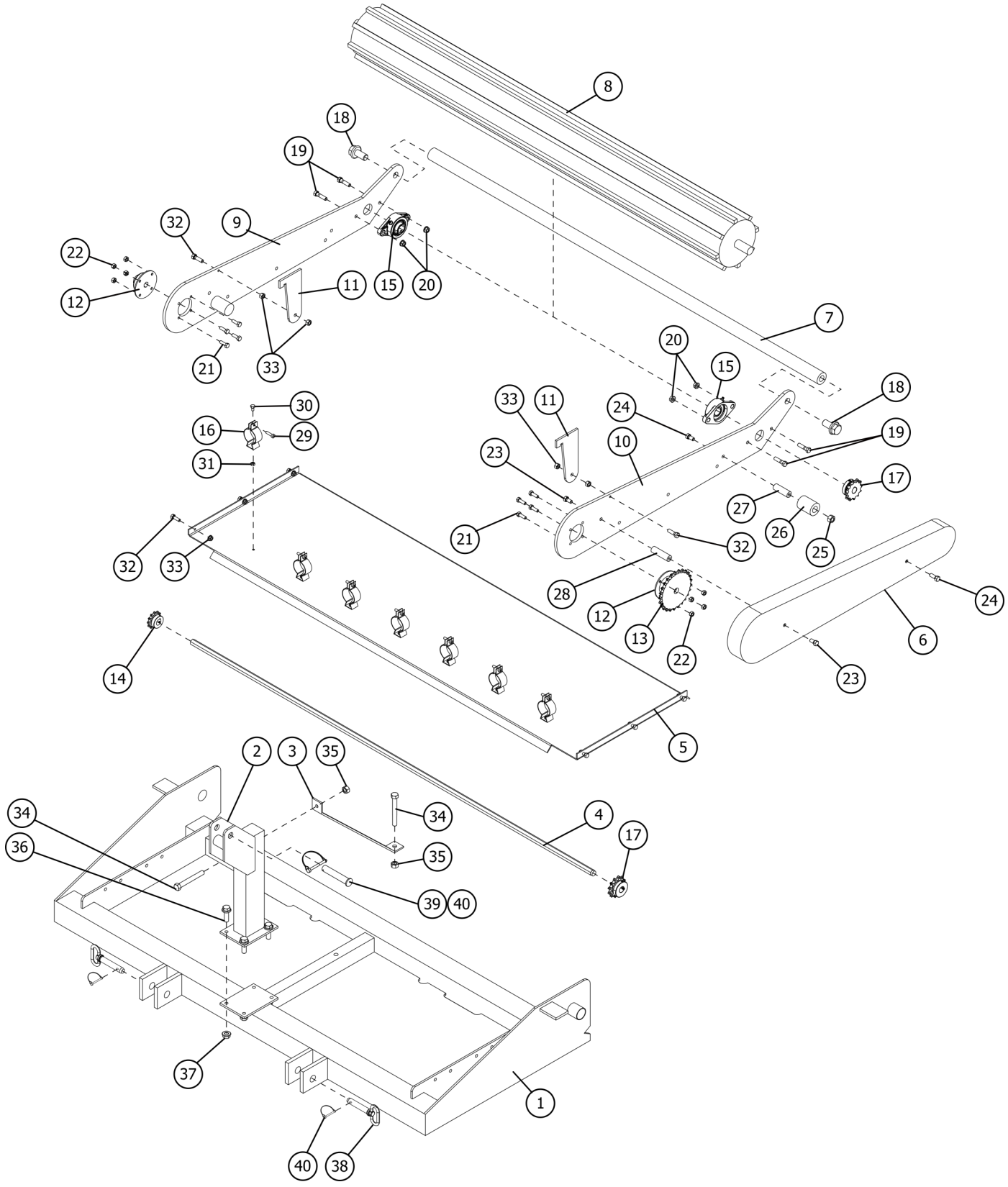
Hopper Assembly



Hopper Assembly

Item	Part #	Description	Qty.
39	DL5006	Handle, clean out	1
40	SA4056	Clean out rod	1
41	DL5007	Spring, clean out	1
42	CP3x70	Cotter pin M3x70	-
43	SA8009	Plastic washer, agitator handle	2
44	MH20000	Manual holder	1
45	SA9009	Mount, agitator	1
46	SA9007	Bushing, agitator	1
47	BM0812530	Bolt HH M08-1.25x30	4
48	NM08125	Nut HH M08-1.25	4
49	SA4012	Seed box shaft, spiral spline (front seed box)	10
50	SA4014	Shaft guide, seed cup - spiral spline	-
51	SA4015	Shaft guide retainer, seed cup	-
52	SA4021	Sheet metal screw	-
53	SA4019	Clevis, composite M10x60	-
54	CP2.5x20	Cotter pin M2x20	-
55	DHDS10016	Threaded spacer Ø.75x2.13x3/8-16	1
56	BS3/8-16x3/4	Bolt HH 3/8-16x3/4 Gr. 5	2
57	BS3/8-16x1	Bolt HH 3/8-16x1 Gr. 5	1
58	FW3/8	Washer flat 3/8	1
59	LW3/8	Washer lock 3/8	1
60	NS3/8-16	Nut HH 3/8-16	
61	DL7001-S	Seed cup distribution box, small seed	-
62	SA4020	Handle flange	1
63	LNM1420	Self-locking nut M14-2.0	2
64	SA4013	Seed box shaft, straight spline	-
65	BM0812525	Bolt HH M08-1.25x25	2
66	FW08	Washer flat M08	4
67	DL2005	Handle complete	2
68	SA4029	Shaft guide, seed cup - straight spline	-
69	SA4022	Flap, seed cup	10
70	SA4030	Flap outer	10
71	SA4031	Flap inner	10

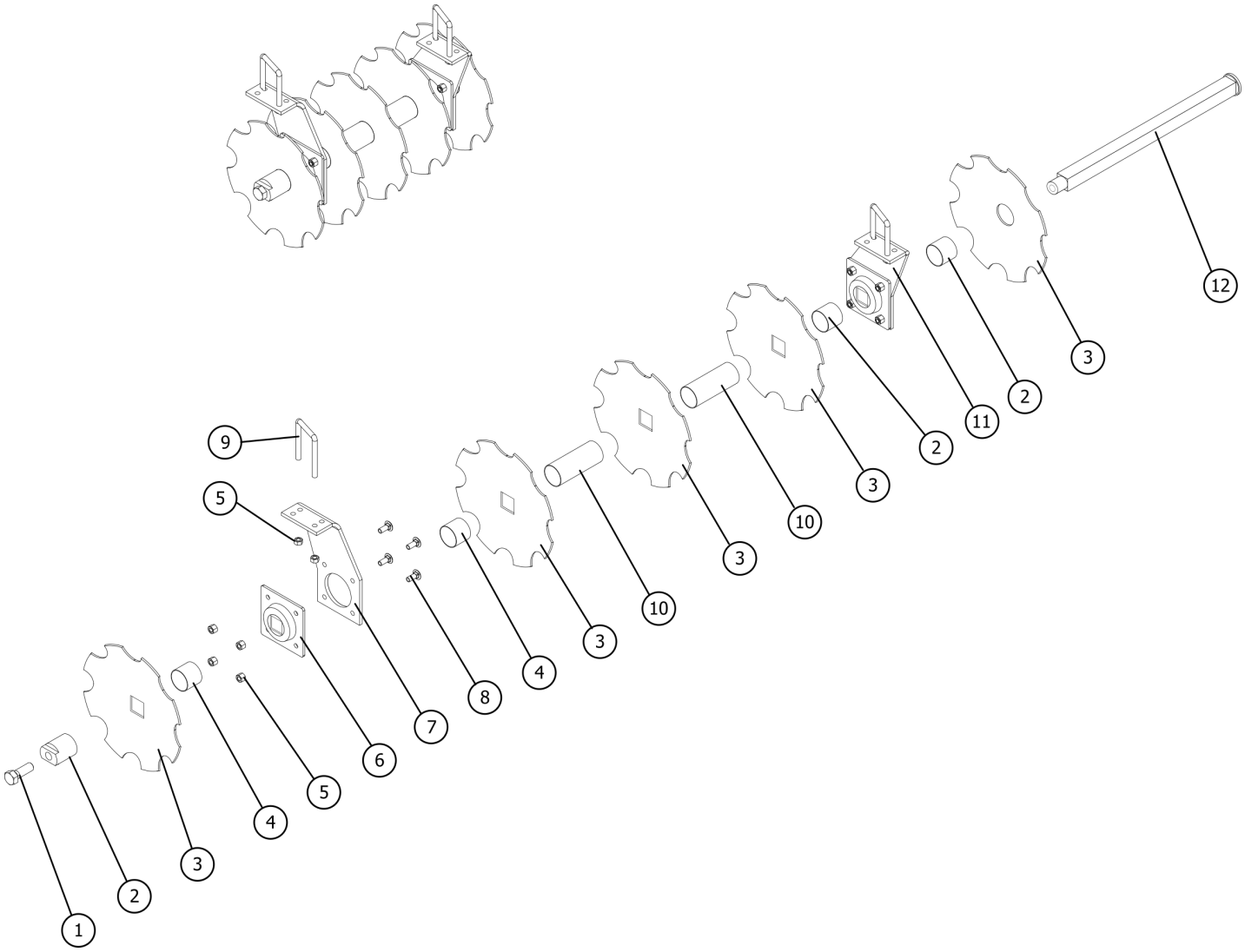
Frame-Roller Assembly



Frame-Roller Assembly

Item	Part #	Description	Qty.
1	DHDS10000	Main frame	1
2	DHDS10001	Mast weldment	1
3	DHDS10002	Brace, mast	1
4	DHDS10003	Shaft, 5/8” hex drive	1
5	DHDS10004	Distribution panel	1
6	DHDS10005	Roller chain shield	1
7	DHDS10006	Tube, lift	1
8	DHDS10007	Roller assembly	1
9	DHDS10008	Plate, side RH	1
10	DHDS10009	Plate, side LH	1
11	DHDS10010	Locking plate, roller arm	2
12	DL1005	Flange assembly w/bearing	2
13	DL2006	Drive sprocket	1
14	DHDS10011	Sprocket, 40B16	1
15	DHDS10012	Bearing, 2 bolt flange	2
16	DHDS10013	Hose support	7
17	DHDS10014	Sprocket, 50B12	2
18	BS3/4-10x1-3/4	Bolt HH 3/4-10x1.75	2
19	FBS3/8-16x1-1/2	Bolt flange 3/8-16x1-1/2 Gr. 5	4
20	FN3/8-16	Flange nut 3/8-16	4
21	BM0812520	Bolt HH M08-1.25x20	8
22	LNM08125	Locking nut M08-1.25	8
23	BS3/8-16x3/4	Bolt HH 3/8-16x3/4 Gr. 5	3
24	BS3/8-16x1	Bolt HH 3/8-16x1 Gr. 5	1
25	NS1/2-13	Nut 1/2-13	1
26	DHDS10015	Chain roller	1
27	DHDS10016	Threaded spacer Ø.75x2.13x3/8-16	1
28	DHDS10017	Threaded spacer, Ø.75x2.63x3/8-16	1
29	PMS1/4-20x1	Machine Screw Truss Head Phillips 1/4-20x1	7
30	BS1/4-20x3/4	Bolt HH standard 1/4-20x3/4 Gr. 5	7
31	NS1/4-20	Nut HH standard 1/4-20	7
32	BS5/16-18x1	Bolt HH standard 5/16-18x1 Gr. 5	6
33	NS5/16-18	Nut HH standard 5/16-18	6
34	BS1/2-13x4	Bolt HH standard 1/2-13x4 Gr. 5	2
35	NS1/2-13	Nut HH standard 1/2-13	2
36	BS1/2-13x1-1/2	Bolt flange 1/2-13x1.50 Gr. 5	4
37	NF1/2-13	Nut flange 1/2-13	4
38	DHDS10018	Hitch pin, lower DHDS	2
39	DHDS10019	Hitch pin, upper DHDS	1
40	LYPN10	Lynch pin M10	3
41	NS7/8-14	Nut HH 7/8-14	2
42	LW7/8	Washer lock 7/8	2

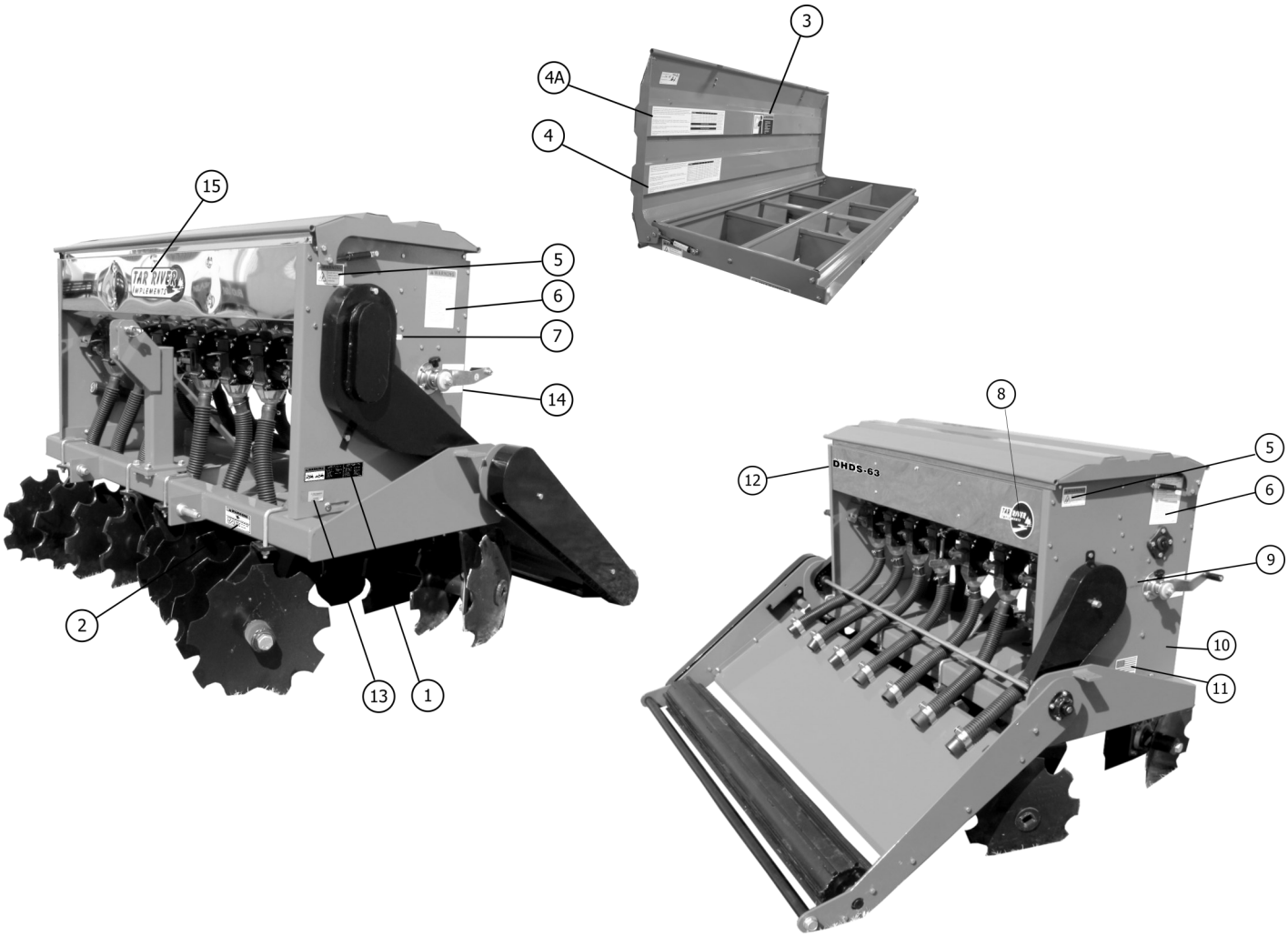
Disc Assembly



Disc Assembly

Item	Part #	Description	Qty.
1	BS7/8-9x2-1/2	Bolt HH 7/8-9x2-1/2	1
2	DHDS10022	Cap, axle	1
3	DHDS10023	Blade, notched	5
4	DHDS10024	Spool, short	4
5	NS1/2-13	Nut HH 1/2-13	10
6	DHDS10025	Bearing	2
7	DHDS10026	Hanger	1
8	BS1/2-13x1-1/2	Bolt HH 1/2-13x1-1/2 Gr. 5	10
9	DHDS10027	U-bolt 3” square tubing	2
10	DHDS10028	Spool, long	4
11	DHDS10029	Hanger	1
12	DHDS10030	Axle	1

Decals



Item	Part #	Description	Qty.
1	5SBD1005	Decal Warning, “Falling off tractor”	1
2	RT1005	Decal Warning, “To prevent serious injury or death”	1
3	D1004	Decal Warning, “Chemicals”	1
4	D1224L	Decal “Large Seed Cup Chart”	1
4A	D1224S	Decal “Small Seed Cup Chart”	1
5	RT1004E	Decal Warning, “Do not open”	2
6	RT1004D	Decal Warning, “To prevent serious injury or death”	2
7	-	Decal Gear Ratio “12-40”	1
8	RT1016	Decal Logo, “Tar River Implements”	1
9	-	Decal Gear Ratio “11-26”	1
10	Decal1013	Decal Logo, “Tar River Mfg”	1
11	D1309	Decal “Assembled in the USA”	1
12	-	Decal Model #, DHDS-63	1
13	-	Decal Serial Tag	1
14	D1316	Decal Adjustment Handle	2
15	D1016	Decal “Tar River Implements”	1

Warranty

LIMITED WARRANTY

Belco Resources Equipment warrants to the original purchaser of any new piece of machinery from Belco Resources Equipment, purchased from an authorized Belco Resources Equipment dealer, that the equipment be free from defects in material and workmanship for a period of one (1) year for non-commercial, state, and municipalities' use, ninety (90) days for commercial use from date of retail sale. Warranty for rental purposes is thirty (30) days. The obligation of Belco Resources Equipment to the purchaser under this warranty is limited to the repair or replacement of defective parts.

Replacement or repair parts installed in the equipment covered by this limited warranty are warranted for ninety (90) days from the date of purchase of such part or to the expiration of the applicable new equipment warranty period, whichever occurs later. Warranted parts shall be provided at no cost to the user at an authorized Belco Resources Equipment dealer during regular working hours. Belco Resources Equipment reserves the right to inspect any equipment or parts, which are claimed to have been defective in material or workmanship.

This limited warranty does not apply to and excludes wear items such as shear pins, tires, tubes knives, blades or other wear items. Oil or grease is not covered by this warranty.

All obligations of Belco Resources Equipment under this limited warranty shall be terminated if:

Proper service is not performed on the machine.
The machine is modified or altered in any way.
The machine is being used or has been used for purposes other than those for which the machine was intended.

DISCLAIMER OF IMPLIED WARRANTIES & CONSEQUENTIAL DAMAGES

Belco Resources Equipment obligation under this limited warranty, to the extent allowed by law, is in lieu of all warranties, implied or expressed, including implied warranties of merchantability and fitness for a particular purpose and any liability for incidental and consequential damages with respect to the sale or use of the items warranted. Such incidental and consequential damages shall include but not be limited to: transportation charges other than normal freight charges; cost of installation other than cost approved by Belco Resources Equipment; duty; taxes; charges for normal service or adjustment; loss of crops or any other loss of income; rental of substitute equipment, expenses due to loss, damage, detention or delay in the delivery.

REGISTRATION

The online Warranty Registration must be completed in order to qualify for coverage on this Limited Warranty. Visit br-equipment.com, click on "Warranty Registration" and completely fill out the form to register the new piece of equipment.

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