



ISO9001:2015 certified

Grain Drill Model 2300



Owner's Manual Installation and Parts Manual

Our Tradition is Quality Driven and Field Proven

Manual # - MAN-GD-2300-004

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Remlinger 2300 Grain Drill

Thank you for purchasing a **Remlinger 2300 Grain Drill**. The Remlinger 2300 was designed to be a cost-effective way to accommodate a wide variety of applications. This design produces a machine with enough strength and flexibility to carry you through your various seeding operations. Traditional seed placement, pasture renovation, native grass plots and small seed cover crops to name a few.

The basic drill, with the large seed hopper only, can be used as a no-till drill in the traditional sense. It is capable of drilling a wide variety of beans, peas, wheat and larger grass seed. This basic set-up can also be used to renovate existing pastures or create new pasture areas.

The addition of the native grass seed hopper gives your basic drill more flexibility. The hopper comes standard with aggressive internal agitators to keep the fluffy seed from bridging and feeds them into sawtoothed picker wheels. The picker wheel act as the seed meter. This hopper can be used to create native grass plots for wild life, help prevent erosion and return un-useable farm ground back to its natural state.

Finally, a small seed hopper can be added to the basic drill setup. The small seed hopper allows you to drill a wide variety of alfalfas, clovers, ryegrass and radishes. These seeds are normally used as a cover crop providing nutrients, loosening of the soil and weed control.

The native grass and small seed hoppers can be used in any combination with the basic drill set-up. Each can be added at any time. The Remlinger 2300 Grain Drill is capable of performing a wide array of applications across your farming operation. Try it out and we bet that you will agree.

Read and study the operator's manual carefully to learn how to safely service and operate your machine. Failure to do so could cause personal injury or equipment damage.

In addition to the equipment furnished with your drill, attachments are available to help you do a better job. **Right-Hand and Left-Hand sides are determined by facing in the direction the drill will travel when in use.**

For your convenience write model and serial number in area provided below. Serial number is located on side end of tool bar.

Model Number: _____

Serial Number: _____

Date of Purchase: _____



This symbol indicates an important Safety Alert Message in this Manual. Carefully read and understand the message that follows. The potential for series injury or death is possible.



Warning



Before using this grain drill, make certain that every operator:

- Is instructed in safe and proper use of this drill.
- Reads and understands the manual pertaining to the drill.
- Reads and understands ALL (if applicable) Safety Decals on the drill.
- Clears the area of all other people before operating the drill and/or attachments.
- Learns and practices safe use of the drill and/or attachments in a safe clear open area before operating in the field.



Safety Rules



- Never attempt to operate or adjust the drill without reading this manual.
- Do not attempt to adjust the drill while it is in motion.
- Caution is required when hooking up or un-hooking the drill. Parking stands have been provided to help support the drill.
- Always use any transport locks that are provided on the drill or attachment.
- Always place all safety decals and reflectors in their proper locations. Clean and replace as necessary.
- Never allow anyone to ride on the drill or attachments.
- Always slow down when turning and traveling over rough terrain.
- Always support the drill when mounting or working on the attachments.
- Hydraulic oil escaping under pressure can have sufficient force to penetrate the skin causing serious personal injury.
- Before disconnecting lines be sure to relieve all pressure. Before applying pressure to the system, be sure all connections are tight and that lines, pipes, and hoses are not damaged.
- Be careful around teeth, tines, sweeps, and blades: they get sharper with wear.
- Be careful - walk board may be slippery when wet.



Warning - Transport Safety



Before transporting or traveling on public roads with this grain drill, make certain that every operator:

- Reads and understands the manual pertaining to the drill.
- Checks and complies with state and local regulations.
- Makes sure SMV, reflectors and warning lights are in working order.
- Uses tractor warning lights during transporting.
- Uses required warning flags, emblems and lights.
- Checks that **red** reflectors are on the back-outer edges of the drill and are clearly visible.
- Checks that **amber** reflectors are on the side and front outer edges of the drill and are clearly visible.
- Travel at a reasonable and safe speed. **"Never exceed maximum speed of 25 mph"**. Reduce speed and/or use lower gear on rough ground or slopes.
- Transport drill in its narrowest configuration. All attachments folded.
- No sudden stops, stop slowly.
- Properly adjust and use mirrors on transport vehicles as required.
- Signals and check behind when turning.
- Be sure to have clear visibility while turning.
- Be extremely cautious in poor visibility situations such as; hills, poor weather conditions and at night.



2/3 of roadway farm accidents occur while turning



Failure to follow any of these safety warnings could cause series injury or death. Use good judgement when transporting and maintain control at all times. Comply with state and local laws and regulations. Always strive to prevent accidents and watch out for other vehicles.

Commonly Used Symbols



Alert, Caution or Important Symbol



Danger or Warning Symbol



Fluid Under Pressure Symbol



Lubrication Symbol

To the Owner

This manual contains important information about the safe assembly, adjustment, operation and maintenance of your 2300 Grain Drill. The Drill and Optional Equipment have been fully assembled at the factory when appropriate. The use of this manual describes how to complete any remaining assembly. Additional diagrams may also be included for specific applications. Please contact your dealer or Remlinger Manufacturing for any questions. **1-800-537-7370**

Any unauthorized modification to any part of the Grain Drill or attachments could cause serious injury and void any warranty consideration. Please refer to the Warranty Policy referenced below. This manual should be placed in the Owner's Manual Canister on the implement to which it is attached. For additional manuals or to replace a lost or damaged manual, please contact your dealer. The manual number is referenced on the lower right-hand corner of each page.

Warranty Policy

Remlinger Mfg. will warrant all products against defects in material and workmanship manufactured and sold by it. Warranty will only be granted after examination by appropriate personnel. This warranty is expressly limited to the replacement of defective products. This warranty does not obligate Remlinger Manufacturing to cover cost of labor to replace these parts.

Remlinger Mfg. reserves the right to change specifications, add improvements or discontinue manufacture of any of its equipment without notice or obligation to purchasers of its equipment. This warranty gives you specific legal rights. You may also have other rights which vary according to state or province.

WARRANTY EXCLUSIONS: Labor, transportation, or any cost related to a service call is not provided by Remlinger Mfg. This Limited Warranty does not apply to damage resulting from misuse, neglect, normal wear, accident or improper installation or maintenance.

BASIC WARRANTY: All Remlinger manufactured products are warranted for one year from date of purchase.

WARRANTY CERTIFICATION: Warranty registration should be mailed, emailed or faxed within 30 days of purchase. Please see Registration Form on Page 71.

UNAPPROVED PARTS OR MODIFICATION: All obligations of Remlinger Mfg. under this Warranty are terminated if unapproved parts are used or if equipment is modified or altered in any way not approved by Remlinger Mfg.

Introduction

This manual contains an illustrated parts catalog and instructions for installation, operation, and service of unit. Please read carefully and follow all instructions.

Parts Catalog covers serviceable parts and is broken down into groups for each section of unit.

Parts shown in exploded views of assemblies have reference numbers that correspond to Part Numbers. **DO NOT ORDER PARTS BY REFERENCE NUMBERS.** Part number and part description are shown with reference numbers. Total number of parts required per unit or assembly is shown opposite each part number.

When ordering parts, always give parts number and part description. If part the number cannot be found in manual, give clear description of part and its location and function. Specify machine type and size.

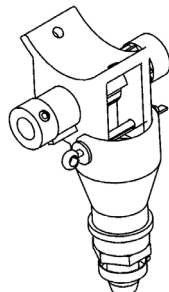
General Instructions

Read all assembly instructions carefully and observe illustrations. Lubricate all bushings and moving parts as you proceed. Bolts should be used in the holes in which they are designated. Leave bolts loose until parts are attachments are completely assembled. Then tighten bolts. It is important that bolts are tight. Loose bolts can cause breakage of parts. If bolts must be replaced, replace them only with bolts of equal strength. The radial lines on the bolt determine their strength.

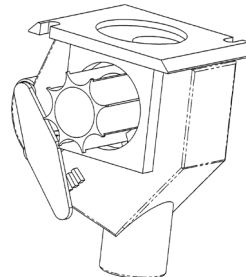
Periodic Check List

- **Retighten all nuts and bolts.** Shipping, transporting and general can cause nuts and bolts to become loose.
- **Check all drive chains, sprockets and keys.** Verify drive chains and sprockets are properly aligned and chains are proper length.
- **Check seed meter adjustment.** Move the seed rate adjuster lever to the “0” or closed position. Check all seed meters to be sure all meters are in the fully closed position. If necessary, loosen the setscrews in the locking collars of the seed meter and adjust all meters to the fully closed position.

Small Seed Meter

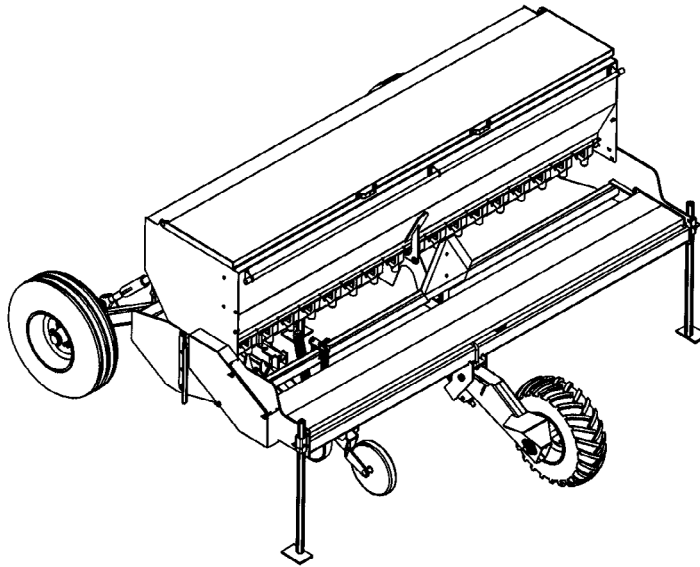


Main Hopper Meter



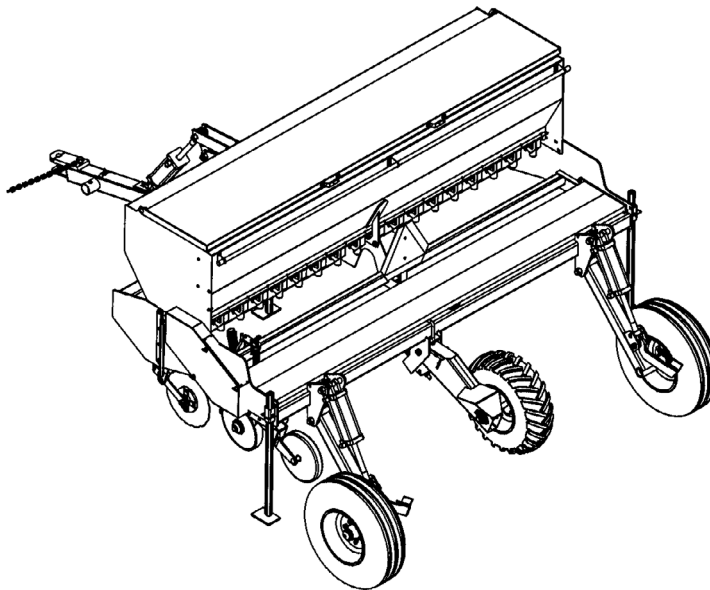
Assembly Required

3 Point Hitch



The Remlinger Grain Drill is shipped completely assembled from the factory. The gauge wheel arms may have been removed for shipping. Optional equipment such as a roller may be partially assembled also due to shipping restrictions.

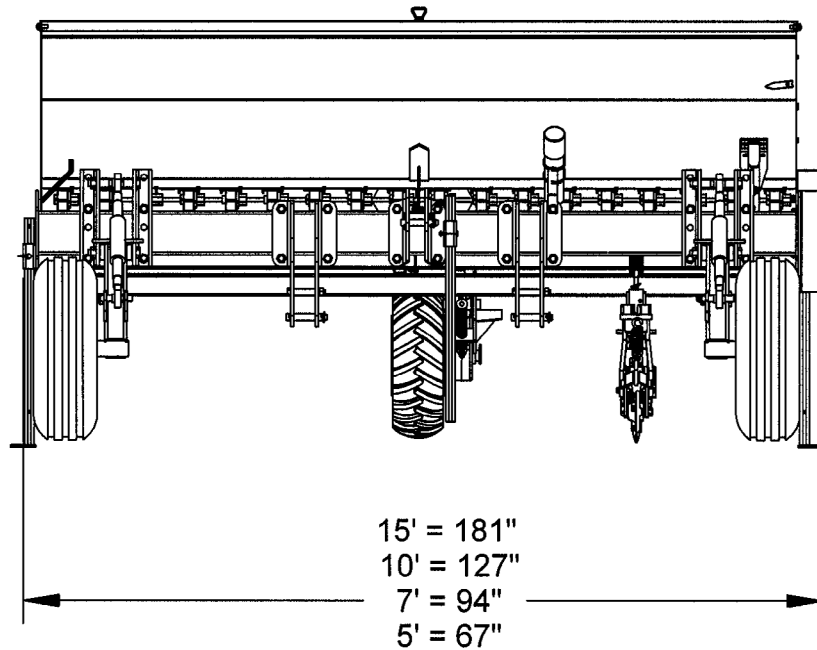
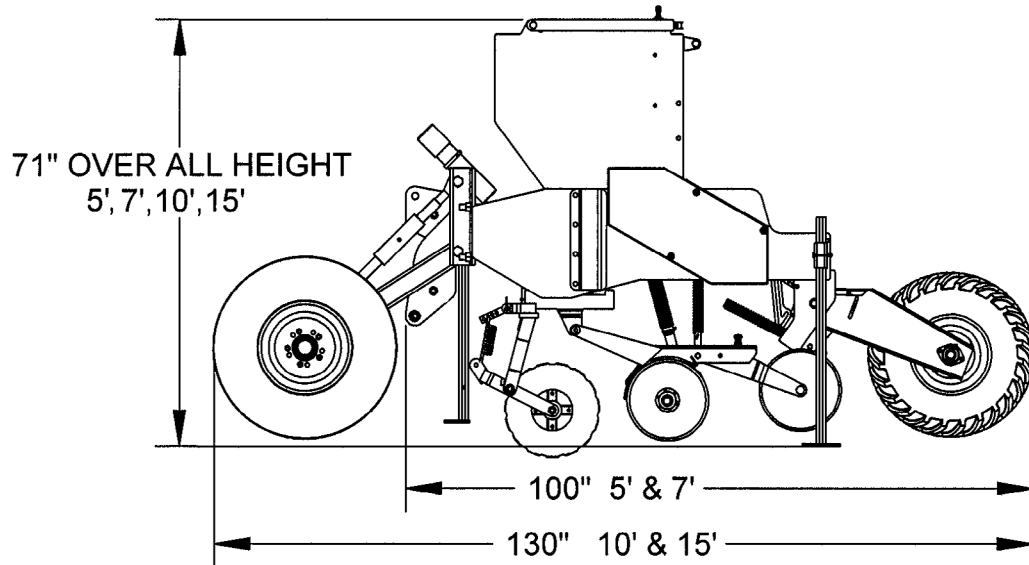
Pull Type Hitch



The pull type drill requires the pull hitch, wheels, tires and hydraulic hoses to the tractor to be assembled. The shipping stand on the front of the drill can be removed.

Specifications

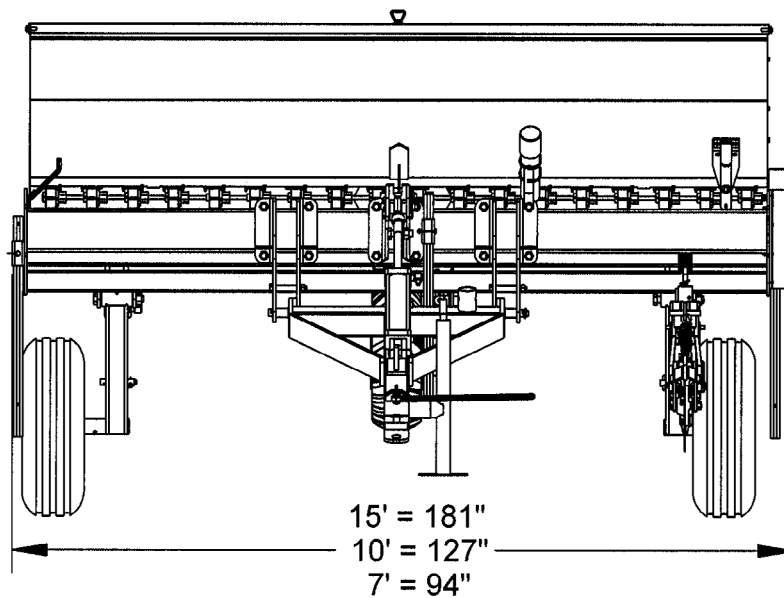
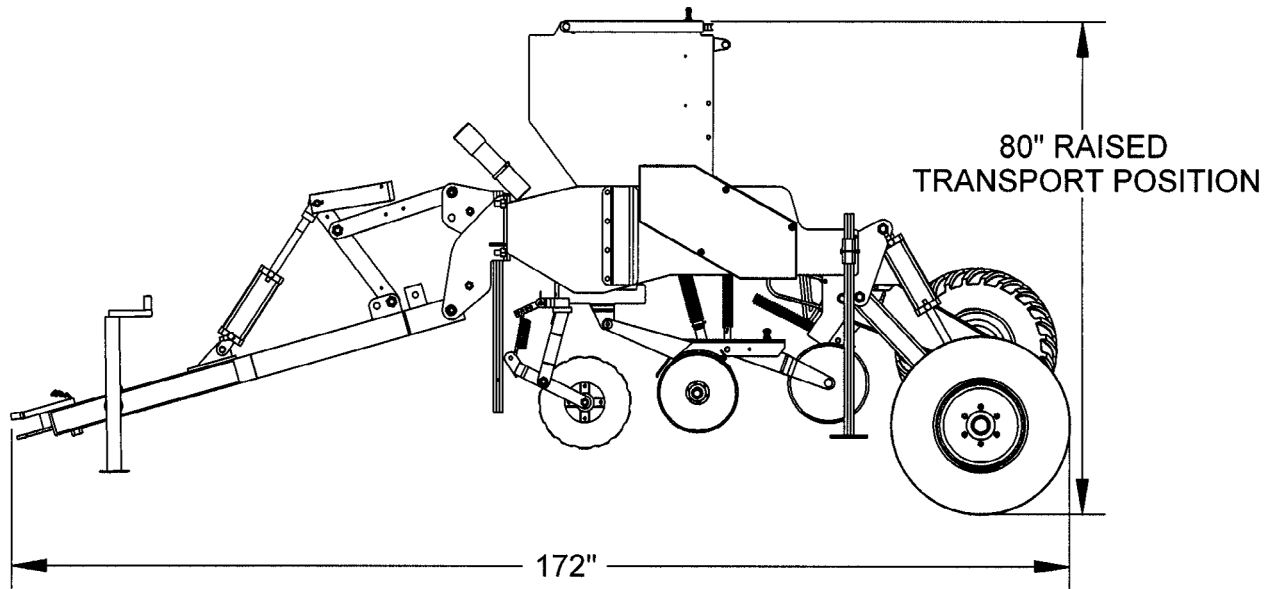
3 Point Hitch



Gage Wheel Packages are not available on 5' & 7' Drills

All dimensions are approximate and subject to change at any time.

Pull Type Hitch

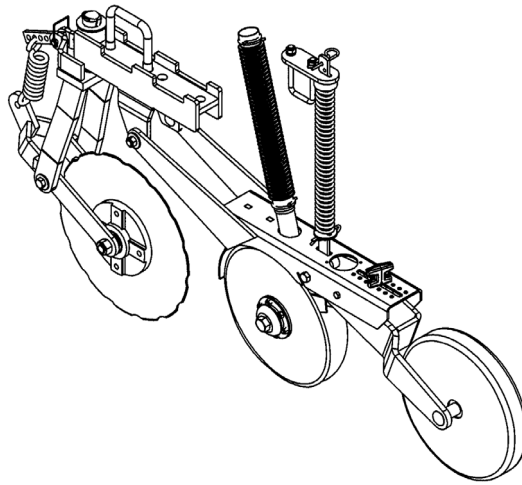


Pull Packages are not available on 5' Drills

All dimensions are approximate and subject to change at any time.



Row Spacing

Opener with No-Till Coulter & 2 x 13 Press Wheel



Row spacing can be changed easily from your current width to any row width you desire, within the limits of the over-all drill width. Determine the row width desired. Each opener unit may be easily moved right or left on the pull bar by simply loosening two U-bolts. If you do not wish to use all attached opener units, cap off the un-needed meters. Optional meter covers are available.

Recommended Torque Specifications

SAE Grade No.	5		8	
Bolt Head Identification				
Bolt Size	Lb - Ft	N - m	Lb - Ft	N - m
1/4"	9 - 11	12 - 15	12 - 15	16 - 20
5/16"	17 - 20.5	23 - 28	24 - 29	33 - 39
3/8"	35 - 42	48 - 57	45 - 54	61 - 73
7/16"	54 - 64	73 - 87	70 - 84	95 - 114
1/2"	80 - 96	109 - 130	110 - 132	149 - 179
5/8"	150 - 180	203 - 244	220 - 264	298 - 358
3/4"	270 - 324	366 - 439	380 - 456	515 - 618
7/8"	400 - 480	542 - 651	600 - 720	814 - 976
1"	580 - 696	787 - 944	900 - 1080	1220 - 1464
1-1/8"	800 - 880	1085 - 1193	1280 - 1440	1736 - 1953
1-1/4"	1120 - 1240	1519 - 1681	1820 - 2000	2468 - 2712
1-3/8"	1460 - 1680	1980 - 2278	2380 - 2720	3227 - 3688
1-1/2"	1940 - 2200	2631 - 2983	3160 - 3560	4285 - 4827

Operating Instructions

General Description

The following information is a brief description of how this seeder works. It is included to help you understand the operation of this seeder.

The power to drive the seeding function of this seeder comes from the ground speed of the tractor. The seed metering is powered by the rear drive wheel at a rate proportional to the distance driven. This ensures that the rate applied remains constant as ground speed is varied. The power is transmitted via drive chains to the seed meters. This drive can be adjusted to three rate settings to vary seed rates. The seed rate is adjustable using the seed rate lever located on the hopper. This system will handle a large variety of seed sizes from the small legumes to kidney beans or sunflowers.

Operating Check List

In addition to design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training involved in its operation, transport, maintenance and storage of equipment. Before beginning to operate your seeder, the following inspection should be performed.

Check

- Read and follow the **“Safety Rules”** carefully.
- Read all of the **“Tractor Hook Up”** and preparation instructions.
- Lubricate the seeder as needed. Refer to **“Lubrication”**
- Check the seeder initially and periodically for loose bolts & pins. **“Torque Values Chart”**.
- Make sure all guards and shields are in place.
- Check initially and periodically for loose bolts, pins, chains.
- Inspect the seed meters and seed tubes for foreign matter.
- Set speed change sprocket for drive type desired.
- Set and calibrate seed rate. See **“Seed Rate Charts”**.
- Make sure the meter gate adjustment handle on each cup is set the same across the seeder.
- Clear the area to be seeded of rocks, branches, or other foreign objects.
- Raise drill before turning, to keep from binding or bending openers or coulters.
- Do not back up with the drill lowered in planting position. Seed tubes may plug and opener damage may occur.

Maintenance

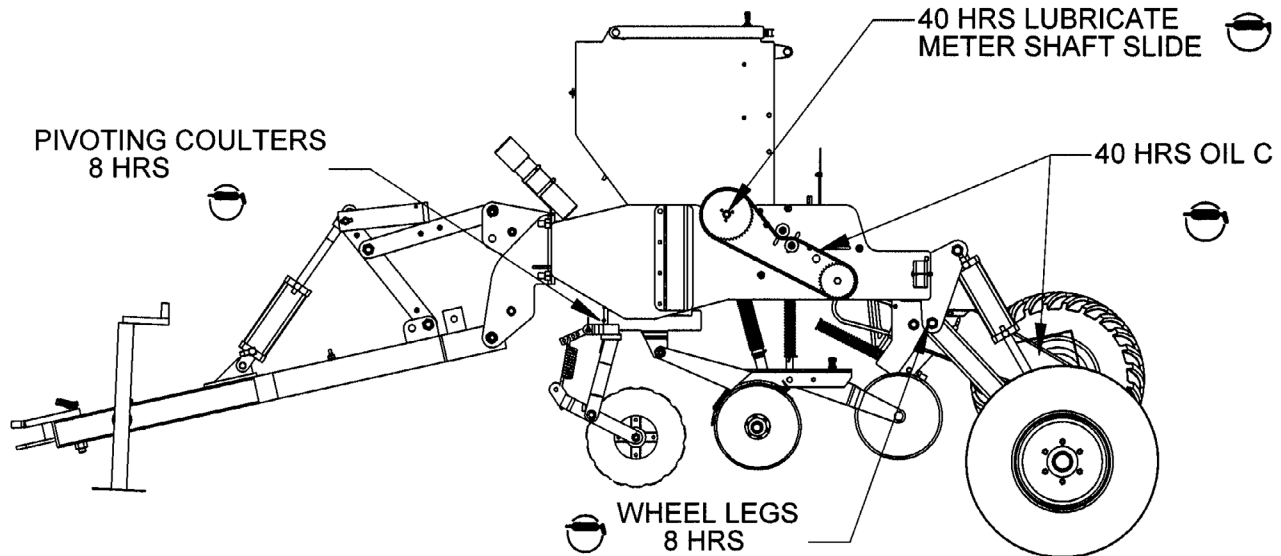
Install cylinder locks or parking stands before performing any maintenance to your seeder.

Proper servicing and adjustment is the key to the long life of any farm implement. With careful and systematic inspection, you can avoid costly maintenance, time and repair.

- After using your grain drill for several hours, check all bolts to be sure they are tight.
- After transporting your grain drill for several hours, check all bolts and nuts to be sure they are tight.

Lubrication

- All bearings on the seeder are sealed and do not require lubrication.
- Oil chains every 40 hours. Wipe off excess oil.
- Grease lift wheel arms, gauge wheel arms and no till swivels every 8 hours.
- Lubricate each meter shaft at drive end sprocket, center coupler and end guide. Slide seed meter adjustment lever back and forth in order to get the oil back into the square.



Parking Stands

1. After hitching the tractor to the seeder, raise the seeder to take the weight off the parking stands. The stands are located at the rear of the drill on each end.
2. Raise the stands and secure with the pins in the bottom hole of the stand.



Tractor Requirements

3-point mounted drills are equipped with a bolt-on hitch, adjustable to handle either CAT II, CAT III Narrow or CAT III tractor lift links or quick hitches. Refer to Tractor Specifications and Capacities for seeder weight.



Caution



Caution: Before hitching the tractor to a 3-point mounted drill be certain the tractor front end is properly weighted to handle the weight of the drill when it is fully loaded with seed.

Tractor 3 Point Hookup

1. Back tractor up to seeder until 3 Point links are aligned with 3 Point hitch brackets on seeder.
2. Secure the tractor's 3 Point lower links to the lower 3-Point brackets using 1-1/8" diameter hitch pins.

Pull Type Hookup

Remlinger pull type drills are designed to work with CAT II or III drawbar tractor using a minimum 1" diameter pin. The drill requires two hydraulic outlets.

Storage

- At the end of the working season or when your grain drill will not be used for a long period, it is good practice to clean off any dirt or grease that may have accumulated on the seeder and any of the moving parts.
- Be sure that the seed box is completely cleaned before storing.
- Lubricate (with multi-purpose grease) all fittings as indicated in picture below.
- Each meter shaft at drive end sprocket, center coupler and end guide on each hopper should be oiled to prevent seizing. Squirt oil on the square drive shaft and move the seed meter adjustment lever back and forth in order to get the oil back into the square.
- Repaint parts where paint is worn or scratched to prevent rust.
- Replace all damaged or missing decals.
- Store the grain drill inside if possible. Inside storage will reduce maintenance and make for a longer seeder life.
- Inspect for loose, damaged or worn parts and adjust or replace if needed.

Transporting

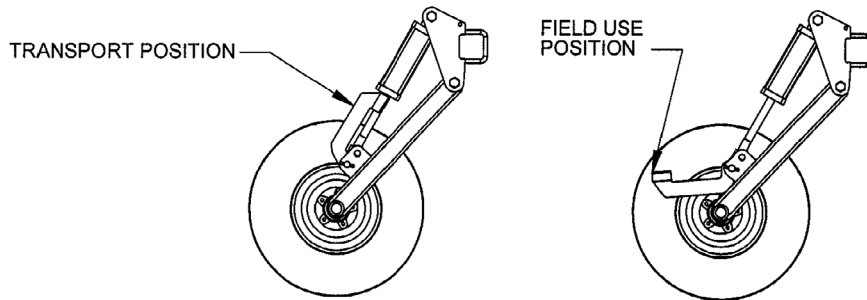


Caution



Caution: When traveling on public roads whether at night or during the day, use accessory lights and devices for adequate warning to operators of other vehicles. Comply with all federal, state and local laws.

- Do not transport with a full hopper of seed, the hopper should be as empty as possible to avoid extra weight during transport.
- Select a safe ground travel speed when transporting from one area to another. To avoid tire failure, **never exceed maximum speed of 25 mph**. When traveling on roadways, transport in such a way that faster moving vehicles may pass you safely.
- When transporting a pull-type drill, insert transport locks on cylinders and lower drill to the stops before unhooking hydraulic hoses.



- Reduce tractor ground speed when turning. Leave enough clearance so the seeder does not contact obstacles such as buildings, trees or fences.
- When traveling over rough or hilly terrain, shift tractor to lower gear.

Parking

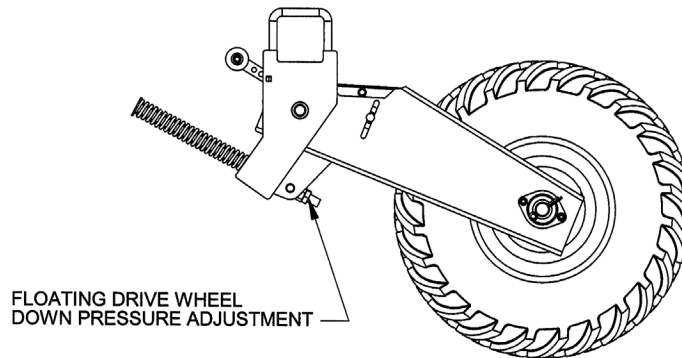
The following steps should be done when preparing to store the seeder or unhitch it from the tractor. See **“Maintenance and Lubrication”** for additional information on long term storage of your seeder.

1. Park the seeder on a level, solid surface.
2. Secure jack, transport locks and / or parking stands.
3. Shut off tractor engine and engage parking brake.
4. Unhitch from tractor.

Drive System

Your Seeder uses standard # 40 roller chain throughout its drive system. The drive system is simple and designed for low maintenance. Remlinger drills feature a spring-loaded floating drive wheel for 3 point or pull type drills. This floating design allows the drive wheel to move up or down to follow the ground contour. The floating action helps prevent seed skips in the roughest of fields. Spring pressure may have to be adjusted depending on ground conditions.

- Check the drive idlers to ensure that they are taking up any “excess” chain slack.
- Check each chain to ensure that it is not over-tightened.
- Annually clean and lubricate chain with chain oil.



Hydraulics

Oil escaping from a very small hole can be almost invisible. Use a piece of cardboard or wood instead of a hand to search for suspecting leaks. If injured by escaping oil, see a doctor at once. Serious infection or reaction can develop if proper medical treatment is not administered immediately. Always relieve pressure in a hydraulic system before working with hydraulic system components.



Caution



Caution: Escaping fluid under pressure can cause serious injury and requires doctor's immediate attention. Keep away from hydraulic system until pressure is relieved.



Caution



Caution: Do not store the drill with hydraulic pressure in the remote hydraulic cylinders.

Start-up Procedure

1. Set the frame height to 21-23" from the ground to the bottom of the tube the openers are mounted on. The openers should be engaged in the ground at the desired depth when measuring height.
2. Adjust the hitch cylinder or tractor top link so that the frame tube that the openers mount on is level in seeding position.
3. On mounted drills: remove the float pins on the tractor's 3-point arms.
4. Set the Meter Adjustment Lever, Meter Gates, and Sprocket speed according to the seed charts and calibrate.
5. Set the **No-Till coulter** in the second hole from the top, the first hole is shallower, third is deeper, it should be set at the desired seeding depth or slightly deeper.
6. Set the lower **"W" Clip** in the bottom hole, move it up if more down pressure is required.
7. Set the **T-Handle** in the center hole. To plant deeper, move the T-Handle backward. To plant shallower, move the T-Handle forward.
8. If the drill does not penetrate after adding spring down pressure, additional weight may be required or keep the hoppers full of seed to push the openers in the ground. Optional weight brackets are available.
9. Recheck planting depth and rate whenever you change fields.

NOTE: For detailed instruction see "Settings and Adjustment" in the following section.



Warning



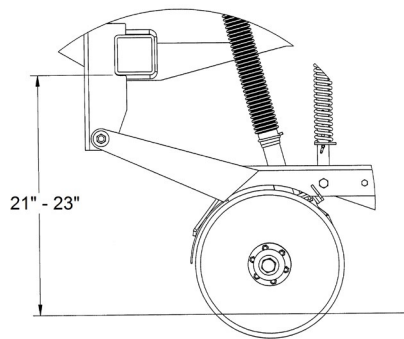
Warning: Do not force the seed meters too close if there is seed in them. This may damage the meters. If the meters need to be closed, do so while turning the drive wheel.

Settings and Adjustments

Frame Setting

- **Pull-Type:** Lower the machine to the ground and pull forward a few feet to allow the discs to penetrate the ground. Adjust the stop on the left-hand wheel lift cylinder to maintain a frame to ground measurement of 21-23" when the drill is in the planting position (see diagram below). Use a lower frame height (21") when planting seeds deeper (1-2"), and a higher frame height (22-23") when planting shallow (<1"). The cylinder on the hitch should be adjusted so that the frame tube the openers are mounted on is level when the drill is in seeding position. This is **extremely important** to maintain a full range of travel for the openers, and the rear drive wheel. Any change in drawbar height, top link, or lifting cylinder could affect the overall operating performance of the machine.

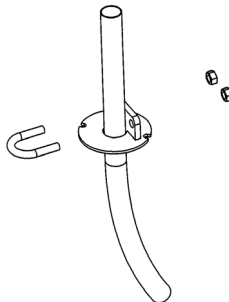
Note: On initial charging of the re-phasing lift cylinders, the hydraulic lever on the tractor should be held on until both cylinders are full of oil. You may have to raise and lower the drill a few times to completely fill the cylinders and remove the air.



- **Mounted:** On 5' & 7' 3-Point drills, the frame height is set by the lower 3-Point stop on the tractor. Level the frame with the top link of the tractor. On 10' & 15' 3-Point drills, the frame height is set with adjustable front gauge wheels. Level the frame with the top link of the tractor.

Small Grass Seed Tube

The small grass seeder is equipped with fully adjustable seed tubes. They are attached to the opener with a 5/16" U-bolt, and have a radius bend on the bottom end. To adjust seed placement, loosen the 5/16" U-bolt and slide the seed tube up or down or twist left or right to place the seed where you want it in the furrow. For broadcast application, the black rubber seed tube can be removed from the galvanized tube to hang and spread seed across the entire width of the drill.



No-Till Coulters

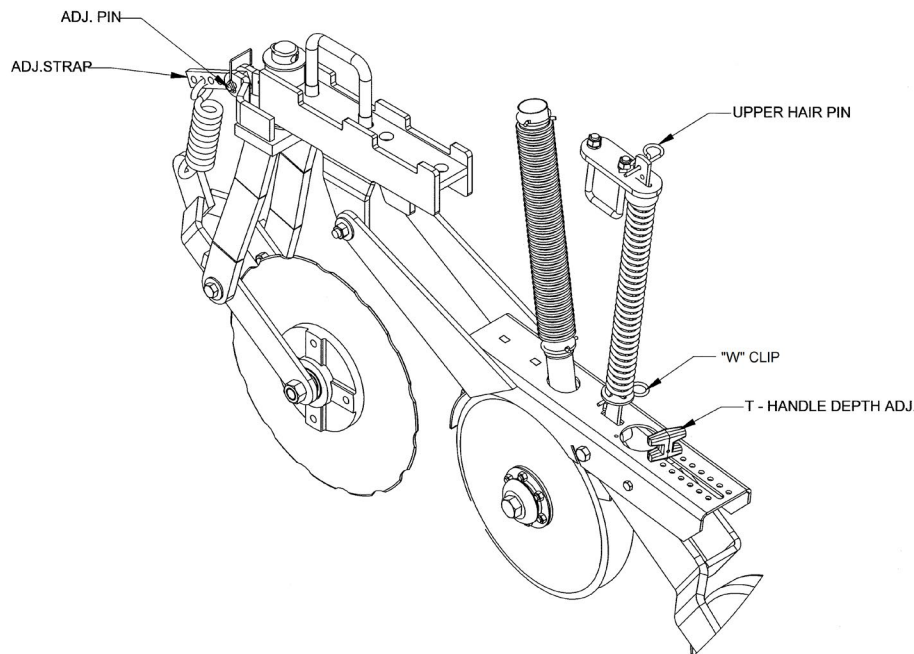
- Start with the adjusting pin in the 2nd hole from the top of the adjustment strap. This should be suitable for most conditions.
- If the coulters do not go to the desired depth, move the adjusting pin to the third hole in the strap for more depth, or to the first hole for less depth.
- When No-Till drilling, the fluted coulter should be set approximately to the depth of the seed or slightly deeper.
- The lower the frame height, the more down pressure will be on the No-Till coulters and openers.

Opener Down Pressure Springs

- **Lower “W” Clip:** The lower “W” clip sets the amount of down pressure on each opener. Start with it in the bottom hole (least down pressure). If more down pressure is required to push the openers in the ground, such as behind the tractor tires, move the lower “W” clip up one hole at a time.
- **Remember** you can only exert as much down pressure as there is weight on the drill, if increasing spring down pressure does not help push the openers in the ground, additional ballast may have to be added, or the grain tank may have to be kept full.

Opener T-Handles

The T-Handle on the opener sets the press/gauge wheel depth. This is what determines how deep the seed is planted. Start with the T-Handle in the middle of its range. To increase planting depth, move the T-Handle backward. To decrease planting depth, move the T-Handle forward.



Field Operation Guide

Addition of Extra Weight

The success of No-Till drilling is often dependent on the proper machine set up in the field. In many cases, the weight of the drill is critical to the proper operation of the drill and since the weight of the drill is the ground penetrating force, the proper distribution of this weight is absolutely essential. The weight must be distributed to three main areas: coulters, openers and press wheels. If too much of the weight is placed on the coulters, it is possible that there won't be sufficient weight left to create proper opener penetration and press wheel pressure. If the desired frame height cannot be maintained, additional weight is probably necessary. Up to 100 lbs. additional weight may be added per opener. There may be some situations where the ground/trash conditions are so tough that the weight of the machine is not adequate to obtain proper penetration even when the allowable added weight is added to the machine.

Ground Preparation

The effective use of a No-Till drill is dependent upon proper field preparation. Consideration should be made long before the ground is to be planted about insuring a properly prepared field that will be suitable for No-Till drilling. In the case of wheat or rice ground, tire ruts and poor straw distribution should be avoided. For best results, the straw should be chopped and spread evenly as the straw is harvested. Trash problems can be avoided by cutting the crop higher off the ground and herbicide application is not blocked by lying straw. The ground should be relatively smooth in contour and free of large clods or ruts. A Remlinger drill will perform best on relatively smooth ground. With smooth ground, the spring pressures will be consistent across the width of the machine.

Check to be sure the press wheels remain in contact with the ground and with the T-Handle. It should make the soil over the seed firm, but not too firm. Over packing the seed bed can result in poor stands as the plant may have trouble pushing out of the packed soil. If the press wheel doesn't remain in contact with ground and T-Handle, more down pressure is required.

Whenever possible, plant in soils with plenty of moisture (not muddy). Soils with higher moisture contents have considerably less shear strengths than the same soils at lower moisture content. Therefore, many penetration problems can be avoided by simply planting at the proper moisture content. Experience will teach each operator the proper moisture content for his particular soil.

Ground Speed

The recommended ground speed for drilling is **4 mph**. In smooth, well prepared soils, speeds in excess of 8 mph have been successful. The main concern is to give the springs an opportunity to successfully maintain contact between the ground, coulters, openers, and press wheels. Excessive bouncing causes inconsistent seed rates and seed depth and unnecessary wear to the machine. Ground speeds can be tailored to each individual situation. Rough terrain, ground hardness and trash are the main consideration in adjusting ground speeds.

To check opener depth, the press wheel should be resting firmly on the ground. The opening made by the opener should be closed by the press wheels. To check the down pressure, walk behind the drill while it is in motion. The press wheels should stay firmly on the ground. If the press wheels are bouncing off the ground, more down pressure is needed or the drill needs additional weight.

Seeding Adjustments

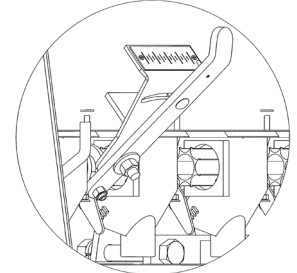
Seed Rate Change

The drive system is designed for a wide variety of different seed rates. A 13 tooth sprocket for slow rate, 23 tooth for medium rates, and 33 tooth for high rate. To change speeds, select the 13, 23, or 33 tooth sprocket and place on the hex jackshaft at the lower left side of the drill. Refer to the proper seed chart for sprocket required.

Meter Rate Adjustments

- Using the seed rate charts, determine the seeding rate for the seed you will be planting and make the following adjustments.

1. Decide which seed rate sprocket you will need.
2. Change the sprocket if necessary, to the required size.
3. Locate the seed meter adjustment lever.
4. Move it to the indicator number obtained from the charts.
5. Move the adjustment lever to the required setting, from a lower to higher.



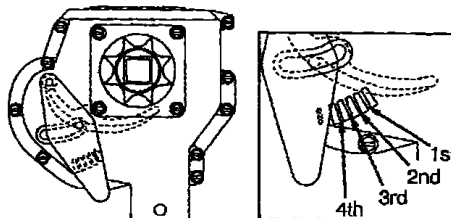
- There are many factors which will affect seeding rates: seed treatment, weight of seed, surface condition of seed or drive wheel slippage. Minor adjustments may be needed to compensate for these factors.

- The seed rate charts are based on average size seed. This may differ from the seed you are using. Use the seed rate charts as a guide. For lighter than average seed, the setting should be increased. For heavier than average seed, the setting should be decreased.

- To determine seed rates for seeds not listed on the charts, compare weight and size to those listed and use a similar setting.

- Field conditions will affect seeding rates. When seeding check the amount of seed you are using by noting acres or square feet seeded, amount of seed added to seeder, and level of seed in the seed box. If you suspect that you are seeding more or less seed than desired, and you have accurately calibrated the seeder to your seed, you may need to adjust the seeding rate slightly to compensate for field conditions.

- This seeder is equipped with a four-position meter gate on each seed meter. The 1st gate position is for small seeds, second and third and fourth positions are for larger seeds. **Make Sure** all gates are in the same position before seeding. The wide-open position will allow complete clean out of the seed cup. **DO NOT open the gate to the wide-open position with seed in the box unless complete clean out is desired.** Set the gate so that seed must be metered by the fluted roll, seed should not be able to flow past the gate without the meter roll turning. The gate may crack large seeds if it is set too close to the flutes.



Calibration Procedure

Use this procedure to calibrate each hopper on the drill separately.

1. Determine the **Desired Seed Rate** in lbs./acre.
2. Raise the drill so that drive wheel will rotate and prepare a means to catch the seed **Sample**. (a plastic tarp works well for this.)
3. Calculate your drill's **Actual Seeding Rate** using the following formula:

$$\text{Seeding Rate (lbs./acre)} = \frac{5609 \times S}{N \times W}$$

Where:

S = Sample weight in ounces.

N = Number of turns of drive wheel.

W = Width of swath you are catching in inches

3 openers on 6-2/3" spacing = 20"

10 openers on 7-1/2" spacing = 75"

Example: You catch 6 oz. of soybeans from 3 openers on 7-1/2" spacing after turning the drive wheel 30 revolutions. What rate in lbs./acre is his drill currently seeding?

$$\text{Seeding Rate (lbs./acre)} = \frac{5609 \times 6 \text{ oz.}}{30 \text{ turns} \times 22.5"} = 49.86 \text{ or about } 50 \text{ lbs./acre}$$

Note: The larger the sample size, the more accurate the calibration will be. Catch seed from as many openers as possible and turn the drive-wheel until you have enough seed to accurately weigh.

4. Compare the Actual Seeding Rate to the Desired Seeding Rate and adjust the Meter Lever and/or the sprocket setting to increase or decrease the seeding rate.
5. Repeat this procedure until the Actual Seeding Rate is equal to the desired Seeding Rate.



Caution



Caution: Seed Charts are provided for starting point only. Always calibrate the drill to your specific seed to ensure proper rates.

HUBO Calculation - Rev's per Acre

$[(43,560/\text{Swath in Feet}) / ((\text{Center of HUB to ground in inches}) \times 2 \times \text{Pi}) / 12)]$

$[(43,560/\text{Swath}) / ((\text{Center of HUB to ground}) \times 2 \times 3.1416) / 12)]$

Feet per Acre	Swath (In Feet)	Radius (Center of HUB to Ground in Inches)	Ideal Revs Per Acre
43,560	42	21	94

$[(43,560/\text{Swath}) / (\text{Distance traveled by 10 rotations of the tire}) / 10)]$

Feet per Acre	Swath (In Feet)	Dist. traveled by 10 rotations of the tire in Ft.	Ideal Revs Per Acre
43,560			#DIV/0!

Determining Ratio needed for Acremeter / E-Hubo for Acres

1 - Determine Circumference of Tire:

1) Measure from the center of Hub, of the wheel where the Hobodometer will be mounted, to the ground. Multiply this number by 2 and then by 3.1416. If measured in inches, then divide the calculated number by 12. This will provide the wheel circumference in feet.

or

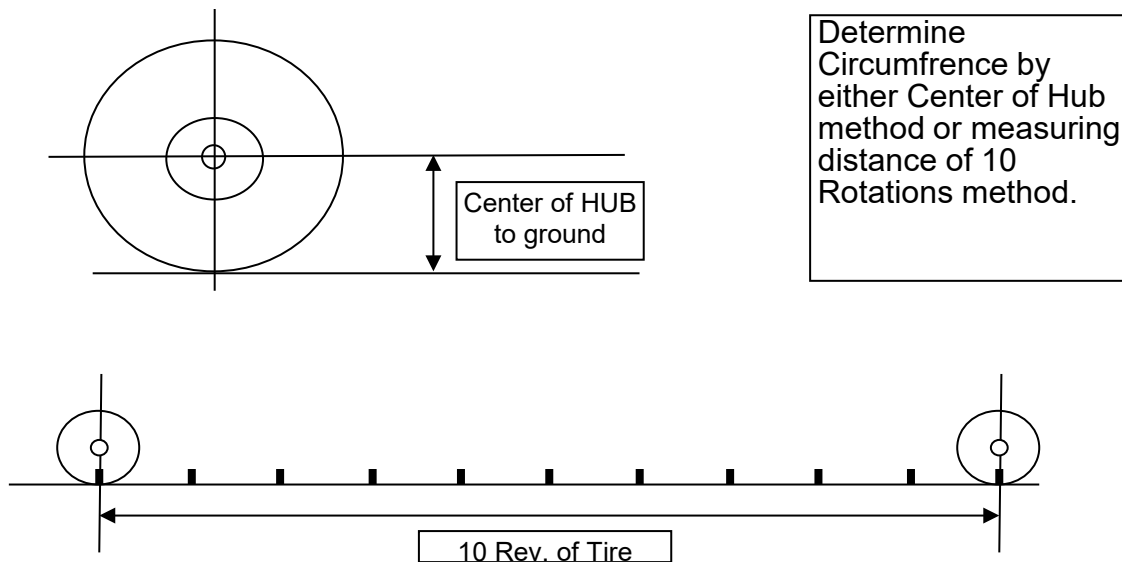
2) Mark the bottom of the tire and the spot on the ground by that mark. Drive the tractor in a straight line and rotate the tire 10 times. Measure from the start to where the 10th revolution ends. Divide this number by 10. If measuring in inches, then divide this number by 12. This will also provide the circumference in feet.

2 - Determine Travel per Acre:

- 1) 1 Acre equals 43,560 Square feet.
- 2) Determine the length of the swath. If in inches divide by 12.
- 3) Divide 43,560 by the swath, in feet. This provides the travel.

3 - Determine the Revolutions per Acre:

- 1) Divide the Travel per Acre by the Circumference of Tire. This will provide the Revolutions
- 2) If using a Mechanical Acremeter choose the closet Ratio to the calculation. If using the Electronic Land-Meter, set using the calculated ratio.



Seed Charts



Seed Chart - L1010

w/o Native Grass Seed Attachment

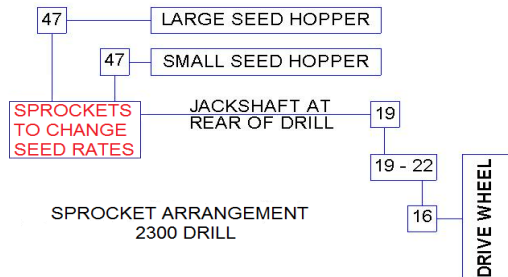
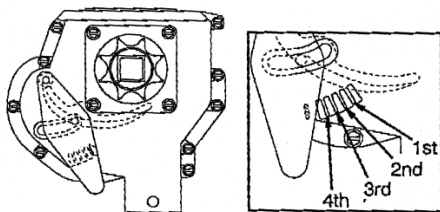
Chart in Pounds per Acre

Large Seed Hopper - 2300 Drill

Row Spacing: 6"

Seed Type	Meter Gate Setting	Sprocket Size	Meter Opening - as Indicated on Drill																
			1/16"	1/8"	3/16"	1/4"	5/16"	3/8"	7/16"	1/2"	9/16"	5/8"	11/16"	3/4"	13/16"	7/8"	15/16"	1"	
Barley	1	13				26	32	40	46	52	58	66	74	81	86	92	98	107	
	1	23				46	56	71	82	91	103	116	130	144	153	162	174	190	
Fescue	1	13				13	17	19	22	26	30	35	37	40	43	46	48	50	
Kidney Beans	2 or 3	13									57	64	68	76	83	90	96	108	
	2 or 3	23									100	113	121	135	147	160	169	191	
Milo	1	13			25	32	41	48	55	62	71	79	86	93					
Oats	1	13						25	30	35	39	44	48	52	55	61	65	67	
	1	23						43	53	62	68	78	84	91	98	107	114	119	
	1	33						62	75	88	98	111	121	131	141	154	164	170	
Peas	2 or 3	13									58	68	78	88	97	107	117	124	
	2 or 3	23									102	119	138	156	172	190	207	219	
		33									146	171	198	223	247	272	296	315	
Pinto Beans	4	13								55		72		92		106		129	
Rice	1	13				27	35	44	48	55	61	66	72	79	86	92	99	107	
	1	23				48	62	78	84	98	107	116	128	139	153	162	176	190	
Soybeans	2	13					48	58	68	79	90	102	115	125	141	156	168	179	
Up to 3000 seeds/lb	2	23					84	102	119	139	160	180	203	221	249	276	297	317	
Soybeans	1	13								72	81	89	101	112	121	130	138	147	
Over 3000 seeds/lb	1	23								128	144	158	178	199	215	231	244	260	
Sudan Grass	1	13		14	19	26	31	36	41	46	52	57	63	68					
	1	23		25	34	46	55	64	73	82	91	100	112	121					
	1	33		36	49	66	79	92	105	118	131	144	161	174					
Sunflower	2 or 3	13						20	23	26	30	35	40	45	50	53	57	61	
Wheat	1	13				35	45	55	63	72	81	89	99	108	115	123	130	141	
	1	23				62	80	98	112	128	144	157	176	192	203	217	231	249	
Trifcale	1	13				33	42	49	59	61	67	75	83	90	99	106	115	123	
	1	23				58	74	87	105	107	119	132	146	160	176	187	203	217	
Cotton (Delin.)	1																		
4400 seeds/lb	1	13								46		55		68		77		86	
Orchard Grass	1	13				6	8	9	12	13	15	17	19	20	22	25	27	28	
	1	23				11	14	16	21	23	27	30	34	35	39	43	48	50	
	1	33				29	35	41	52	58	70	75	87	90	99	110	122	128	
Brome Grass	1	13				5	6	8	9	12	14	15	17	18	19	22	23	25	
	1	23				9	11	14	16	21	25	27	30	32	34	39	41	43	
Amaranth	1	13	9	22	31	43	52	65											
Millet	1	13			31	37	44	52	59	66									
Rape	1	13		18	25	31	34												
Switch Grass	1	13		23	32	40	45	53	59	65	72	77							
Kenland Red	1	13	17	23	31	39	44	51	59	64	72	80	85						
Navy Beans	4	13							89	116	143	163	172	194	203	234	248	270	
Annual Rye	1	13				6	9	17	21	24	28	33	35	39	42				
	1	23				11	16	30	36	43	50	59	61	68	75				
Crimson	1	13			19	28	36	44	59	64	69	80							
Chufa (small seed size)	3	13						52	60	69	81	94	100	107	113	119	125	132	
	3	23						91	107	122	144	166	177	188	199	210	221	233	
Iron Clay Peas	2	13				56	63	69	78	88	97	107	116	125	138	150	155	160	
	2	23				100	111	122	139	155	172	188	205	222	243	265	273	282	
Corn - Med. Rounds 1700 seeds/lb.	2	13			53	63	74	85	95	105	122	140	148	157	180	203	207	210	

METER GATE SETTING



Seed Charts are provided for a starting point only, always calibrate drill for exact rates.

Small Seed Hopper - 2300 Drill

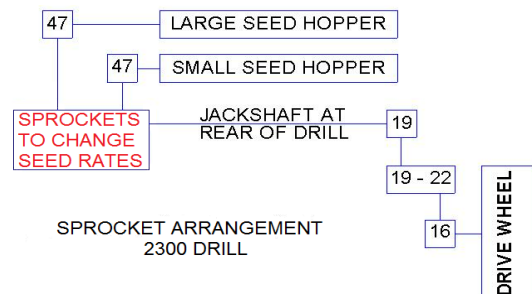
Row Spacing: 6"

Seed	Type	Seed Rate	Sprocket Size	Meter Opening - as Indicated on Drill																	
				1/16"	1/8"	3/16"	1/4"	5/16"	3/8"	7/16"	1/2"	9/16"	5/8"	11/16"	3/4"	13/16"	7/8"	15/16"	1"		
Alfalfa	Low	13		2	4	6	8	9	11	13	15	17	19	21	23	26	28	30			
	High	23		3	7	10	13	17	20	23	27	30	33	37	42	47	50	53			
Alfalfa Coated	Low	13		2	5	8	9	11	13	15	18	21	22	23	25	28	30	32			
	High	23		3	8	13	17	20	23	27	32	37	38	40	45	50	53	57			
Bahia Grass	Low	13	1	2	3	4	6	8	9	11	12	13	15	17	18	19	21	23			
	High	23	2	3	5	7	10	13	17	20	22	23	27	30	32	33	37	40			
Bentgrass	Low	13	1	2	2	3	4	5	5	6	6	7	8	9	9	10	10	11			
	High	23	2	3	4	5	7	8	9	10	11	12	14	15	16	17	18	19			
Bermuda Grass	Low	13		2	5	8	9	11	13	15	17	19	22	24	26	28	30	32			
	High	23		3	8	13	17	20	23	27	30	33	38	43	47	50	53	57			
Canola	Low	13		2	3	5	7	9	11	12	14	16	18	20	21	23	25	26			
	High	23		3	6	10	13	16	19	22	25	28	31	35	38	41	44	47			
Centipede	Low	13		2	4	6	8	11	13	15	17	19	21	23	24	26	28	30			
	High	23		3	7	10	15	20	23	27	30	33	37	40	43	47	50	53			
Alsike Clover	Low	13	1	3	4	6	8	10	12	14	16	18	21	23	24	26	28	29			
	High	23	1	5	8	11	15	18	21	25	29	33	36	40	43	46	49	52			
Red Clover	Low	13	1	3	5	7	9	11	14	16	18	21	23	25	27	29	32	34			
	High	23	1	5	9	13	16	20	24	28	32	37	41	45	48	52	56	60			
Love Grass	Low	13	2	4	6	8	9	11	13	15	17	19	20	21	23	24	25	26			
	High	23	3	7	10	13	17	20	23	27	30	33	35	37	40	43	45	47			
Lespedeza	Low	13	1	2	3	4	5	6	7	8	8	9	10	11	12	13	14	15			
	High	23	2	3	5	7	8	10	12	13	15	17	18	20	22	23	25	27			
Lespedeza Unhulled	Low	13		2	5	8	9	11	14	17	20	23	25	28	31	34	37	39			
	High	23		3	8	13	17	20	25	30	35	40	45	50	55	60	65	70			
Millet	Low	13		2	4	6	7	8	9	11	13	15	16	17	19	21	22	23			
	High	23		3	7	10	12	13	17	20	23	27	28	30	33	37	38	40			
Annual Ryegrass	Low	13		1	2	3	4	5	6	8	9	10	11	12	14	15	16	17			
	High	23		1	3	5	7	9	11	13	15	18	20	22	24	27	28	30			
Perrenial Ryegrass	Low	13		1	2	3	4	5	7	8	9	10	12	13	14	15	16	17			
	High	23		1	3	5	7	9	12	14	16	18	20	23	24	26	28	30			
*Sudan Grass	Low	13	1	3	5	8	10	12	15	17	19	22	23	25	28	30	33	35			
	High	23	2	6	9	13	17	22	26	30	34	38	41	45	49	54	58	62			
Tall Wheatgrass	Low	13						1	1	2	2	3	3	3	4	4	5	6			
	High	23						1	2	4	4	5	5	5	6	8	9	11			
Switchgrass	Low	13		2	4	5	6	8	10	13	15	17	18	20	22	24	27	30			
	High	23		4	7	9	11	13	18	23	27	30	32	35	39	43	48	53			
Kentucky Bluegrass	Low	13		1	2	2	3	4	4	5	6	7	8	8	9	10	11	12			
	High	23		2	3	4	5	7	8	9	11	12	14	15	17	18	20	22			
KY 31 Fescue	Low	13				2	3	3	4	5	5	6	6	7	7	8	8	9			
	High	23				3	5	6	7	8	9	10	11	12	13	14	15	16			
Rape Seed	Low	13		4	6	8	9	10	12	13	15	17	19	21	23	26	29	32			
	High	23		7	10	13	16	18	21	24	27	30	33	37	41	45	50	56			

Seeds that Will Not Feed

Bluestem, Large
Bluestem, Little
Bromegrass
Creeping Red Fescue
Indian Grass
Needle Grass
Orchard Grass

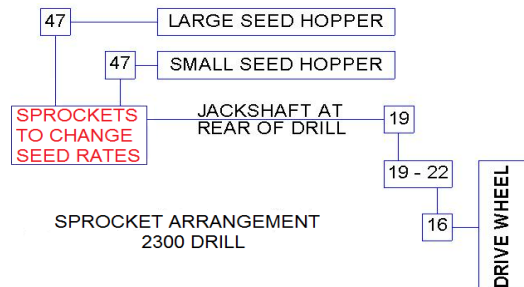
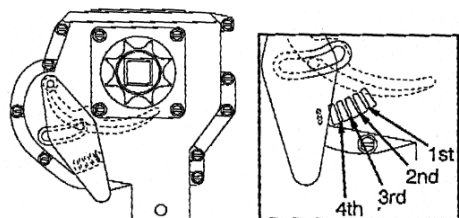
*Some varieties / sizes may crack seeds



Seed Charts are provided for a starting point only, always calibrate drill for exact rates.

Large Seed Hopper - 2300 Drill
Row Spacing: 6 2/3"

Seed Type	Meter Gate Setting	Sprocket Size	Meter Opening - as Indicated on Drill																
			1/16"	1/8"	3/16"	1/4"	5/16"	3/8"	7/16"	1/2"	9/16"	5/8"	11/16"	3/4"	13/16"	7/8"	15/16"	1"	
Barley	1	13				23	29	36	42	46	52	59	66	73	78	82	88	96	
	1	23				41	51	64	74	82	92	105	117	129	138	146	156	171	
Fescue	1	13				12	15	17	20	23	27	31	34	36	38	42	43	45	
Kidney Beans	2 or 3	13									51	57	62	69	75	81	86	97	
	2 or 3	23									90	102	109	121	133	144	152	172	
Milo	1	13			22	29	37	43	50	56	64	71	78	84					
Oats	1	13						22	27	31	35	39	43	46	50	55	58	60	
	1	23						39	47	55	62	70	76	82	88	97	103	107	
	1	33						56	68	80	88	100	109	118	127	139	147	153	
Peas	2 or 3	13									52	61	70	79	88	97	105	112	
	2 or 3	23									92	107	124	140	155	171	186	197	
		33									131	154	178	201	222	245	267	283	
Pinto Beans	4	13								50		65		82		95		116	
Rice	1	13				24	31	39	43	50	55	59	65	71	78	82	89	96	
	1	23				43	55	70	76	88	97	105	115	125	138	146	158	171	
Soybeans	2	13					43	52	61	71	81	92	103	113	127	141	151	161	
Up to 3000 seeds/lb	2	23					76	92	107	125	144	162	183	199	224	249	267	286	
Soybeans	1	13								65	73	80	91	101	109	117	124	132	
Over 3000 seeds/lb	1	23								115	129	142	160	179	193	208	220	234	
Sudan Grass	1	13		13	17	23	28	33	37	42	46	51	57	62					
	1	23		23	31	41	49	58	66	74	82	90	101	109					
	1	33		32	44	59	71	83	94	106	118	130	144	156					
Sunflower	2 or 3	13						18	20	23	27	31	36	41	45	48	51	55	
Wheat	1	13				31	41	50	57	65	73	80	89	98	103	110	117	127	
	1	23				55	72	88	101	115	129	142	158	173	183	195	207	224	
Trifcale	1	13				30	38	44	53	55	60	67	74	81	89	95	103	110	
	1	23				52	67	78	95	97	107	119	132	144	158	169	183	195	
Cotton (Delin.)	1																		
4400 seeds/lb	1	13								42		50		61		69		78	
Orchard Grass	1	13				6	7	8	10	12	14	15	17	18	20	22	24	26	
	1	23				10	12	14	18	21	25	27	31	32	35	39	43	45	
	1	33				26	31	37	47	52	63	68	78	81	89	99	110	115	
Brome Grass	1	13				5	6	7	8	10	13	14	15	16	17	20	21	22	
	1	23				8	10	12	14	18	23	25	27	29	31	35	37	39	
Amaranth	1	13	8	19	28	39	47	58											
Millet	1	13			28	34	39	46	53	59									
Rape	1	13		17	22	28	30												
Switch Grass	1	13		21	29	36	41	48	53	58	65	70							
Kenland Red	1	13	15	21	28	35	39	46	53	58	65	72	76						
Navy Beans	4	13							80	104	128	147	155	175	183	210	223	243	
Annual Rye	1	13				6	8	15	18	22	25	30	31	35	38				
	1	23				10	15	27	33	39	45	53	55	61	67				
Crimson	1	13			17	25	32	39	53	58	62	72							
Chufa (small seed size)	3	13						47	54	62	73	84	90	96	101	107	112	119	
	3	23						82	96	110	129	149	159	169	179	189	199	209	
Iron Clay Peas	2	13				50	57	62	70	79	87	96	104	112	124	135	139	144	
	2	23				90	100	110	125	139	154	169	184	199	219	239	246	254	
Corn - Med. Rounds 1700 seeds/lb.	2	13			48	57	66	76	85	94	110	126	133	141	162	182	186	189	

METER GATE SETTING


Seed Charts are provided for a starting point only, always calibrate drill for exact rates.

Small Seed Hopper - 2300 Drill

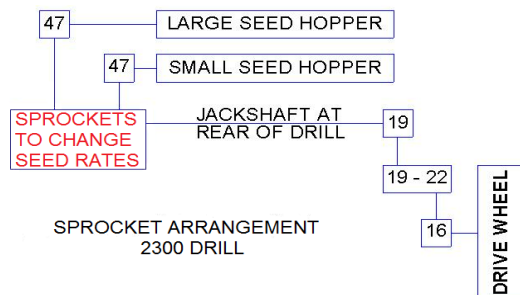
Row Spacing: 6 2/3"

Seed	Type	Seed Rate	Sprocket Size	Meter Opening - as Indicated on Drill																
				1/16"	1/8"	3/16"	1/4"	5/16"	3/8"	7/16"	1/2"	9/16"	5/8"	11/16"	3/4"	13/16"	7/8"	15/16"	1"	
Alfalfa	Low	13		2	3	5	7	8	10	12	14	15	17	19	21	24	25	27		
	High	23		3	6	9	12	15	18	21	24	27	30	33	37	42	45	48		
Alfalfa Coated	Low	13		2	4	7	8	10	12	14	16	19	19	20	23	25	27	29		
	High	23		3	7	12	15	18	21	24	28	33	34	36	40	45	48	51		
Bahia Grass	Low	13	1	2	3	3	5	7	8	10	11	12	14	15	16	17	19	20		
	High	23	1	3	4	6	9	12	15	18	19	21	24	27	28	30	33	36		
Bentgrass	Low	13	1	2	2	3	3	4	5	5	6	6	7	8	8	9	9	10		
	High	23	2	3	4	5	6	7	8	9	10	11	12	14	15	16	16	17		
Bermuda Grass	Low	13		2	4	7	8	10	12	14	15	17	19	22	24	25	27	29		
	High	23		3	7	12	15	18	21	24	27	30	34	39	42	45	48	51		
Canola	Low	13		1	3	5	7	8	10	11	13	14	16	18	19	21	22	24		
	High	23		2	6	9	12	14	17	20	22	25	28	31	34	36	39	42		
Centipede	Low	13		2	3	5	8	10	12	14	15	17	19	20	22	24	25	27		
	High	23		3	6	9	13	18	21	24	27	30	33	36	39	42	45	48		
Alsike Clover	Low	13	1	2	4	6	7	9	11	13	15	17	19	20	22	23	25	27		
	High	23	1	4	7	10	13	16	19	22	26	29	33	36	39	41	44	47		
Red Clover	Low	13	1	3	5	7	8	10	12	14	16	19	21	23	25	27	28	30		
	High	23	1	5	8	12	15	18	22	25	29	33	36	40	44	47	50	54		
Love Grass	Low	13	2	3	5	7	8	10	12	14	15	17	18	19	20	22	23	24		
	High	23	3	6	9	12	15	18	21	24	27	30	31	33	36	39	40	42		
Lespedeza	Low	13	1	2	3	3	4	5	6	7	8	8	9	10	11	12	13	14		
	High	23	1	3	4	6	7	9	10	12	13	15	16	18	19	21	22	24		
Lespedeza Unhulled	Low	13		2	4	7	8	10	13	15	18	20	23	25	28	30	33	36		
	High	23		3	7	12	15	18	22	27	31	36	40	45	49	54	58	63		
Millet	Low	13		2	3	5	6	7	8	10	12	14	14	15	17	19	19	20		
	High	23		3	6	9	10	12	15	18	21	24	25	27	30	33	34	36		
Annual Ryegrass	Low	13		1	2	2	3	5	6	7	8	9	10	11	12	14	14	15		
	High	23		1	3	4	6	8	10	12	14	16	18	20	22	24	26	27		
Perrenial Ryegrass	Low	13		1	2	2	4	5	6	7	8	9	10	11	12	13	14	15		
	High	23		1	3	4	6	8	10	13	15	16	18	20	22	24	25	27		
*Sudan Grass	Low	13	1	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31		
	High	23	2	5	9	12	16	19	23	27	31	34	37	40	44	48	52	56		
Tall Wheatgrass	Low	13						1	1	2	2	2	2	3	3	4	5	5		
	High	23						1	2	3	4	4	4	4	6	7	8	10		
Switchgrass	Low	13		2	3	5	6	7	9	12	14	15	16	18	20	22	25	27		
	High	23		4	6	8	10	12	16	21	24	27	29	31	35	39	43	48		
Kentucky Bluegrass	Low	13		1	1	2	3	3	4	5	5	6	7	8	8	9	10	11		
	High	23		1	3	4	5	6	7	8	10	11	12	13	15	16	18	19		
KY 31 Fescue	Low	13				2	2	3	4	4	5	5	5	6	7	7	8	8		
	High	23				3	4	5	6	7	8	9	10	10	12	13	13	14		
Rape Seed	Low	13		4	5	7	8	9	11	12	13	15	17	19	20	23	26	28		
	High	23		6	9	12	14	16	19	21	24	27	29	33	36	41	45	51		

Seeds that Will Not Feed

Bluestem, Large
Bluestem, Little
Bromegrass
Creeping Red Fescue
Indian Grass
Needle Grass
Orchard Grass

*Some varieties / sizes may crack seeds



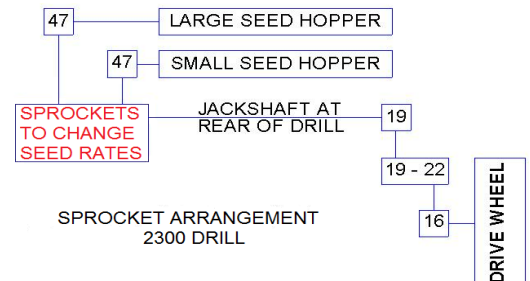
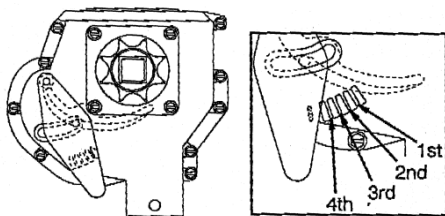
Seed Charts are provided for a starting point only, always calibrate drill for exact rates.

Large Seed Hopper - 2300 Drill

Row Spacing: 7 1/2"

Seed Type	Meter Gate Setting	Sprocket Size	Meter Opening - as Indicated on Drill															
			1/16"	1/8"	3/16"	1/4"	5/16"	3/8"	7/16"	1/2"	9/16"	5/8"	11/16"	3/4"	13/16"	7/8"	15/16"	1"
Barley	1	13				21	25	32	37	41	46	53	59	65	69	73	78	86
	1	23				37	45	57	66	73	82	93	104	115	122	130	139	152
Fescue	1	13				10	13	15	18	21	24	28	30	32	34	37	38	40
Kidney Beans	2 or 3	13									45	51	55	61	67	72	76	86
	2 or 3	23									80	90	97	108	118	128	135	153
Milo	1	13			20	26	33	38	44	50	57	63	69	74				
Oats	1	13						20	24	28	31	35	38	41	44	49	52	54
	1	23						35	42	49	55	62	68	73	79	86	91	95
	1	33						50	60	71	79	89	97	105	113	123	131	136
Peas	2 or 3	13									46	54	62	70	78	86	93	99
	2 or 3	23									81	96	110	125	138	152	165	175
		33									117	137	158	179	198	218	237	252
Pinto Beans	4	13								44		58		73		85		103
Rice	1	13				22	28	35	38	44	49	53	58	63	69	73	79	86
	1	23				38	49	62	68	79	86	93	102	111	122	130	141	152
Soybeans	2	13					38	46	54	63	72	82	92	100	113	125	134	144
Up to 3000 seeds/lb	2	23					67	81	96	111	128	144	163	177	199	221	237	254
Soybeans	1	13								58	65	71	81	90	97	104	110	118
Over 3000 seeds/lb	1	23								102	115	126	142	159	172	184	195	208
Sudan Grass	1	13		11	15	21	25	29	33	37	41	45	51	55				
	1	23		20	27	37	44	51	58	66	73	80	90	97				
	1	33		29	39	52	63	73	84	94	105	115	128	139				
Sunflower	2 or 3	13						16	18	21	24	28	32	36	40	42	45	49
Wheat	1	13				28	36	44	51	58	65	71	79	87	92	98	104	112
	1	23				49	64	79	89	102	115	126	141	153	163	173	184	199
Trifcale	1	13				26	34	39	47	49	54	60	66	72	79	85	92	98
	1	23				47	59	69	84	86	95	106	117	128	141	150	163	174
Cotton (Delin.)	1																	
4400 seeds/lb	1	13								37		44		54		62		69
Orchard Grass	1	13				5	6	7	9	10	12	13	15	16	18	20	22	23
	1	23				9	11	13	16	18	22	24	27	28	31	35	38	40
	1	33				23	28	32	42	46	56	60	70	72	79	88	97	102
Brome Grass	1	13				4	5	6	7	9	11	12	13	14	15	18	19	20
	1	23				7	9	11	13	16	20	22	24	26	27	31	33	35
Amaranth	1	13	7	17	25	34	42	52										
Millet	1	13			25	30	35	41	47	53								
Rape	1	13		15	20	25	27											
Switch Grass	1	13		19	26	32	36	42	47	52	58	62						
Kenland Red	1	13	13	18	25	31	35	41	47	51	58	64	68					
Navy Beans	4	13							71	92	114	130	138	155	162	187	198	216
Annual Rye	1	13				5	7	13	16	20	23	27	28	31	34			
	1	23				9	13	24	29	35	40	47	49	55	60			
Crimson	1	13			15	23	29	35	47	51	55	64						
Chufa (small seed size)	3	13						42	48	55	65	75	80	85	90	95	100	105
	3	23						73	85	97	115	133	141	150	159	168	177	186
Iron Clay Peas	2	13				45	50	55	62	70	77	85	93	100	110	120	124	128
	2	23				80	89	97	111	124	137	150	164	177	195	212	219	226
Corn - Med. Rounds	2	13			42	50	59	68	76	84	97	112	118	125	144	162	165	168
1700 seeds/lb.																		

METER GATE SETTING



Seed Charts are provided for a starting point only, always calibrate drill for exact rates.

Seed Chart - L1007

w/o Native Grass Seed Attachment
Chart in Pounds per Acre

Small Seed Hopper - 2300 Drill

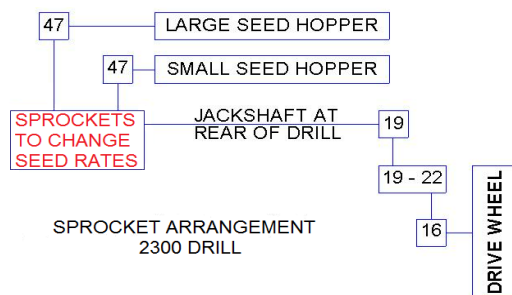
Row Spacing: 7 1/2"

Seed	Type	Seed Rate	Sprocket Size	Meter Opening - as Indicated on Drill															
				1/16"	1/8"	3/16"	1/4"	5/16"	3/8"	7/16"	1/2"	9/16"	5/8"	11/16"	3/4"	13/16"	7/8"	15/16"	1"
Alfalfa	Low	13			2	3	5	6	8	9	11	12	14	15	17	19	21	23	24
	High	23			3	5	8	11	13	16	19	21	24	27	29	33	37	40	43
Alfalfa Coated	Low	13			2	4	6	8	9	11	12	14	17	17	18	20	23	24	26
	High	23			3	7	11	13	16	19	21	25	29	31	32	36	40	43	45
Bahia Grass	Low	13	1	2	2	3	5	6	8	9	10	11	12	14	14	15	17	18	
	High	23	1	3	4	5	8	11	13	16	17	19	21	24	25	27	29	32	
Bentgrass	Low	13	1	1	2	2	3	4	4	5	5	6	6	7	7	8	8	9	
	High	23	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	15	
Bermuda Grass	Low	13		2	4	6	8	9	11	12	14	15	17	20	21	23	24	26	
	High	23		3	7	11	13	16	19	21	24	27	31	35	37	40	43	45	
Canola	Low	13		1	3	4	6	7	9	10	11	13	14	16	17	18	20	21	
	High	23		2	5	8	10	13	15	18	20	22	25	28	30	32	35	37	
Centipede	Low	13		2	3	5	7	9	11	12	14	15	17	18	20	21	23	24	
	High	23		3	5	8	12	16	19	21	24	27	29	32	35	37	40	43	
Alsike Clover	Low	13	1	2	4	5	7	8	10	11	13	15	16	18	19	21	22	24	
	High	23	1	4	6	9	12	15	17	20	23	26	29	32	34	37	39	42	
Red Clover	Low	13	1	2	4	6	7	9	11	13	15	17	18	20	22	24	25	27	
	High	23	1	4	7	10	13	16	19	23	26	29	32	36	39	42	45	48	
Love Grass	Low	13	2	3	5	6	8	9	11	12	14	15	16	17	18	20	20	21	
	High	23	3	5	8	11	13	16	19	21	24	27	28	29	32	35	36	37	
Lespedeza	Low	13	1	2	2	3	4	5	5	6	7	8	8	9	10	11	11	12	
	High	23	1	3	4	5	7	8	9	11	12	13	15	16	17	19	20	21	
Lespedeza Unhulled	Low	13		2	4	6	8	9	11	14	16	18	20	23	25	27	29	32	
	High	23		3	7	11	13	16	20	24	28	32	36	40	44	48	52	56	
Millet	Low	13		2	3	5	5	6	8	9	11	12	13	14	15	17	17	18	
	High	23		3	5	8	9	11	13	16	19	21	23	24	27	29	31	32	
Annual Ryegrass	Low	13		1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
	High	23		1	2	4	5	7	9	11	12	14	16	18	19	21	23	24	
Perrenial Ryegrass	Low	13		1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
	High	23		1	2	4	6	7	9	11	13	15	16	18	20	21	23	24	
*Sudan Grass	Low	13	1	3	4	6	8	10	12	14	15	17	19	20	22	24	26	28	
	High	23	1	5	8	11	14	17	21	24	27	31	33	36	39	43	46	49	
Tall Wheatgrass	Low	13						1	1	2	2	2	2	2	3	3	4	5	
	High	23						1	2	3	3	4	4	4	5	6	7	9	
Switchgrass	Low	13		2	3	4	5	6	8	11	12	14	15	16	18	20	22	24	
	High	23		3	5	7	9	11	15	19	21	24	26	28	31	35	39	43	
Kentucky Bluegrass	Low	13		1	1	2	2	3	4	4	5	6	6	7	8	8	9	10	
	High	23		1	2	3	4	5	6	7	9	10	11	12	13	15	16	17	
KY 31 Fescue	Low	13				2	2	3	3	4	4	5	5	5	6	6	7	7	
	High	23				3	4	5	6	7	7	8	9	9	10	11	12	13	
Rape Seed	Low	13		3	5	6	7	8	9	10	12	13	15	17	18	21	23	25	
	High	23		6	8	10	13	14	17	19	21	24	26	29	32	36	40	45	

Seeds that Will Not Feed

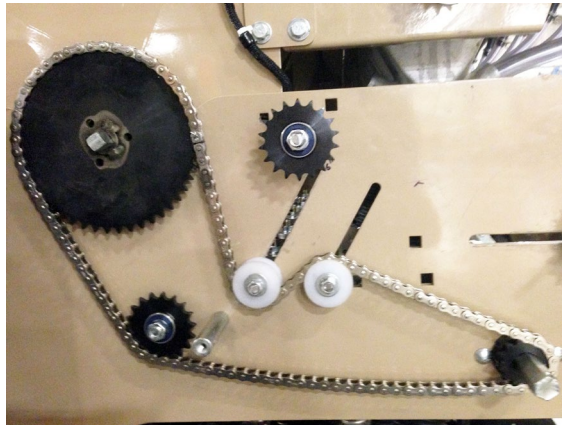
Bluestem, Large
Bluestem, Little
Bromegrass
Creeping Red Fescue
Indian Grass
Needle Grass
Orchard Grass

*Some varieties / sizes may crack seeds

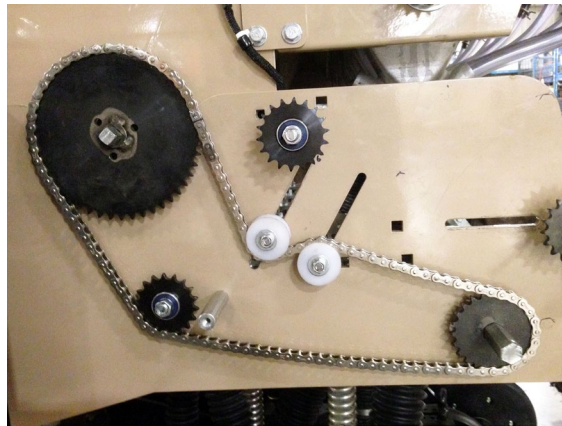


Seed Charts are provided for a starting point only, always calibrate drill for exact rates.

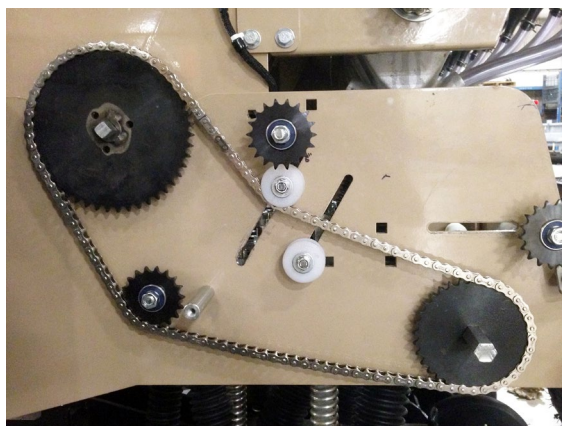
Sprocket Layout - Large Hopper w/o Native Grass Seed Hopper



Large Hopper – 13 Tooth on Jack Shaft – 47 Tooth on Meter

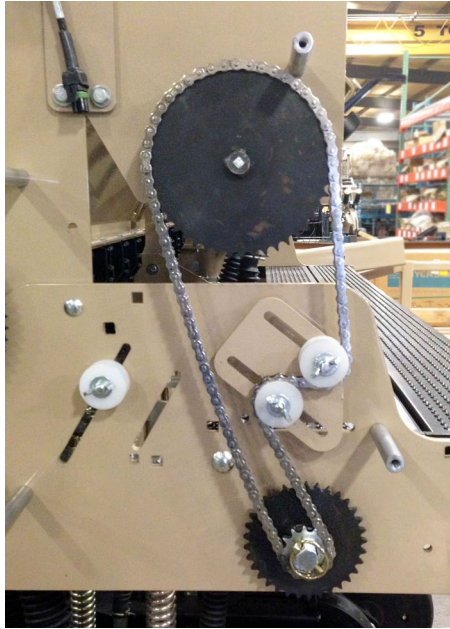


Large Hopper – 23 Tooth on Jack Shaft – 47 Tooth on Meter

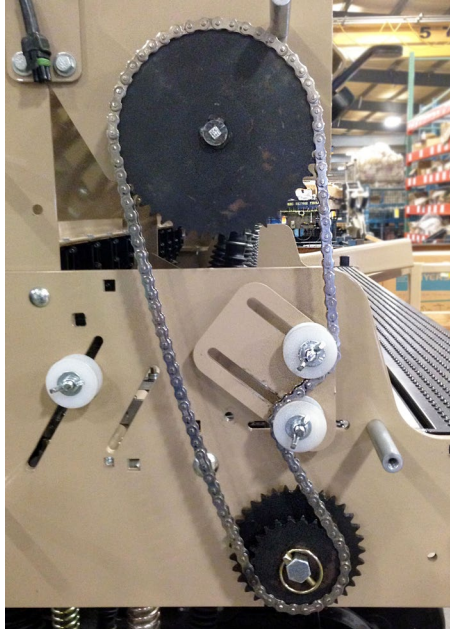


Large Hopper – 33 Tooth on Jack Shaft – 47 Tooth on Meter

Sprocket Layout - Small Seed Hopper w/o Native Grass Seed Hopper



Small Seed Hopper – 13 Tooth on Jack Shaft – 47 Tooth on Meter

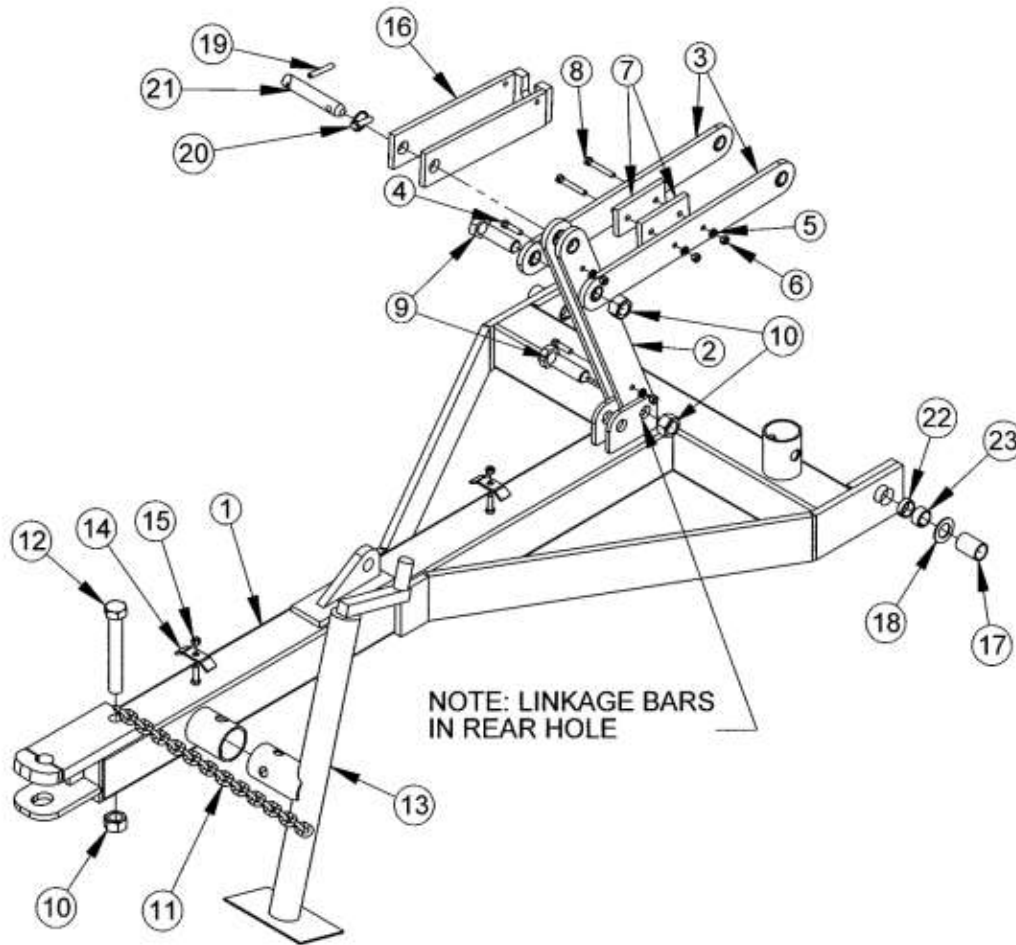


Small Seed Hopper – 23 Tooth on Jack Shaft – 47 Tooth on Meter

Troubleshooting

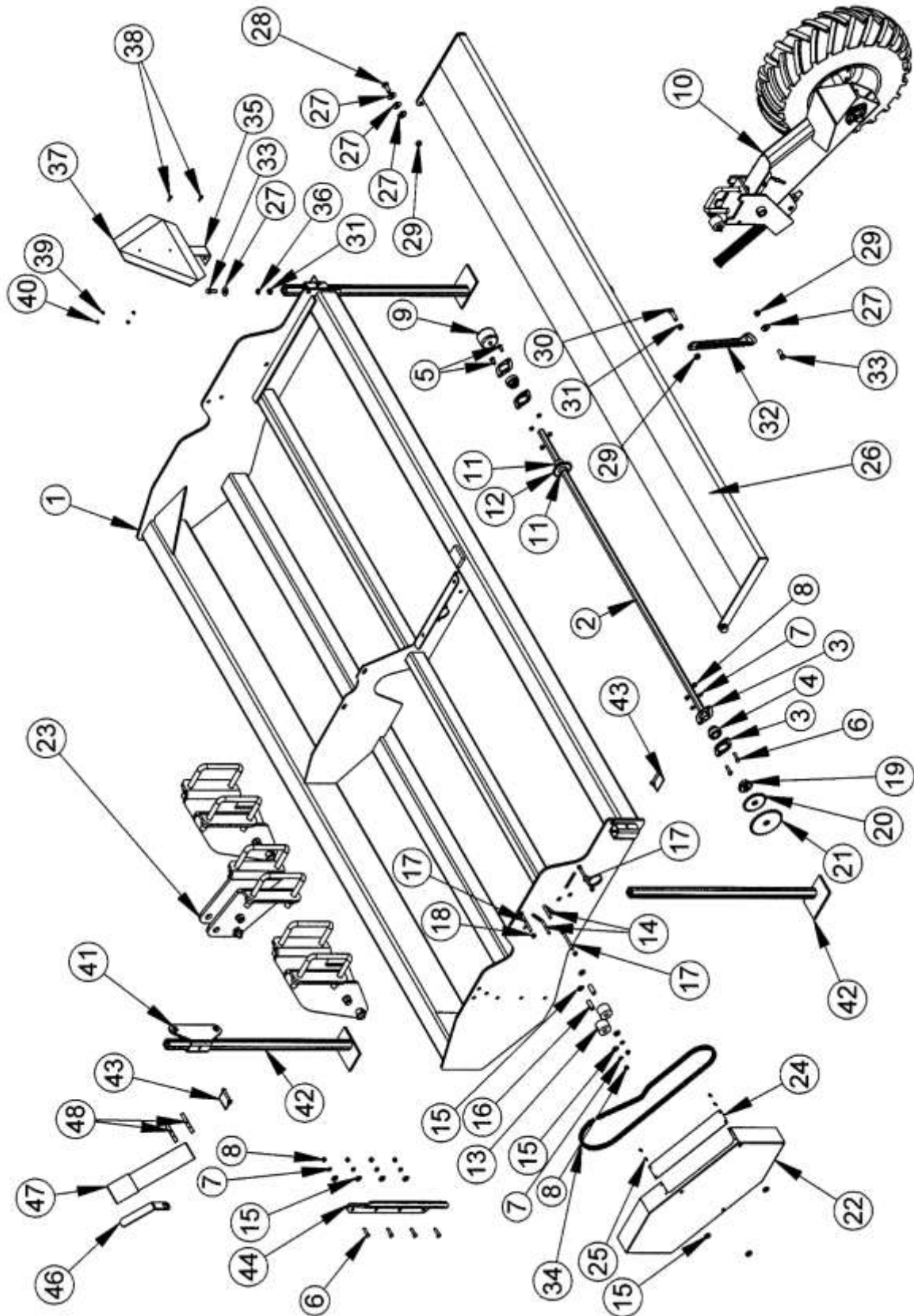
Problem	Possible Cause	Correction
Uneven seed depth or failure of opener to penetrate soil.	Too little down pressure on openers.	Adjust down pressure spring for more pressure. (page 6)
	Ground too hard. (conventional)	Prepare deeper seed bed. (page 23)
	Ground too hard. (No-Till)	Add weight, within recommended specifications. (page 23)
		Wait for necessary moisture. (page 23)
	Excessive speed pulls drill out of the ground.	Reduce tractor speed (page 23)
	-Press wheels set too low.	Raise press wheel. (page 21)
	-Drill not level front to rear.	Reset drill level. (page 21)
Seed flow uneven to individual openers.	Seed meters opened unevenly.	Check each meter unit for proper opening and adjust if necessary.
	Too much trash in seed.	Clean the seed.
	Not enough seed in hoppers.	Add more seed to hoppers.
	Seed tube or opener plugged.	Clear obstruction.
Coulter penetration too shallow or too deep.	Drill riding too high or too low on gauge wheels.	Adjust gauge wheel height.
	Improper coulter spring pressure.	Adjust coulter spring pressure. (page 21)
	Drill not level.	Level drill front to rear (page 21)
	More or less weight needed.	Add / remove weight within recommended specifications. (page 23)
	Ground too hard.	Wait for necessary moisture.
Drive wheel not staying on ground while planting.	Ground too rough.	Change planting directions. Adjust spring down pressure on drive wheel. (page 15)
	Excessive Speed.	Reduce speed.
	Drill not level front to rear.	Level drill front to rear (page 21)
	Drill height adjusted too high.	Adjust carrier wheels.
	Excessive spring pressure on openers and/or coulters.	Decrease of spring pressure on opener and /or coulter.
	Inadequate weight (No-Till)	Add weight to within recommended specifications (page 23)
Drill riding out of the ground	Excessive speed pulls the drill out of the ground.	Reduce tractor speed. (page 23)
Drive chain runs off sprocket	Line of chain travel not straight.	Re-align sprockets.
	Object caught in sprocket.	Remove object.
	Chain too loose.	Adjust idlers or remove links as necessary.

Pull Type Hitch Parts



Ref. #	Description	Qty.	Part #
1	Hitch Weldment	1	RM-RR1483
2	Front Linkage Bar	2	RM-RR1478
3	Rear Linkage Bar	2	RM-RR1479
4	3/8"-16 x 1 1/2" HCS	2	
5	3/8" Lock Washer	4	
6	3/8"-16 Hex Nut	4	
7	Linkage Spacer	2	RM-RR1484
8	3/8"-16 x 2 1/2" HCS	2	
9	1"-8 x 3 1/2" HCS	2	
10	1"-8 Top Lock Nut	3	
11	Safety Chain	1	RM-J1799
12	1"-8 x 7" HCS	1	
13	Jack Assembly W/ Brackets	1	RM-J8205
14	Clamp, Hydraulic Hose (2)	2	RM-R121848
15	3/8"-16 Hex Lock Nut	2	
16	Cylinder Stop	1	RM-S16840
17	Bushing, 2" Cat III	2	RM-M 3317
18	1 1/8" Machine Washer - 14 Ga..	2	
19	3/8" x 2-1/2" Roll Pin	1	RM-J1513
20	7/16" Lynch Pin	1	RM-J15481
21	Upper 3 Pt. Pin, Cat II	1	RM-S18456
22	Bushing, 1-3/8 x 1-1/8 x 1/2	2	RM-J00849
23	Bushing, 1-3/8 x 1-1/8 x 3/4	2	RM-J00843

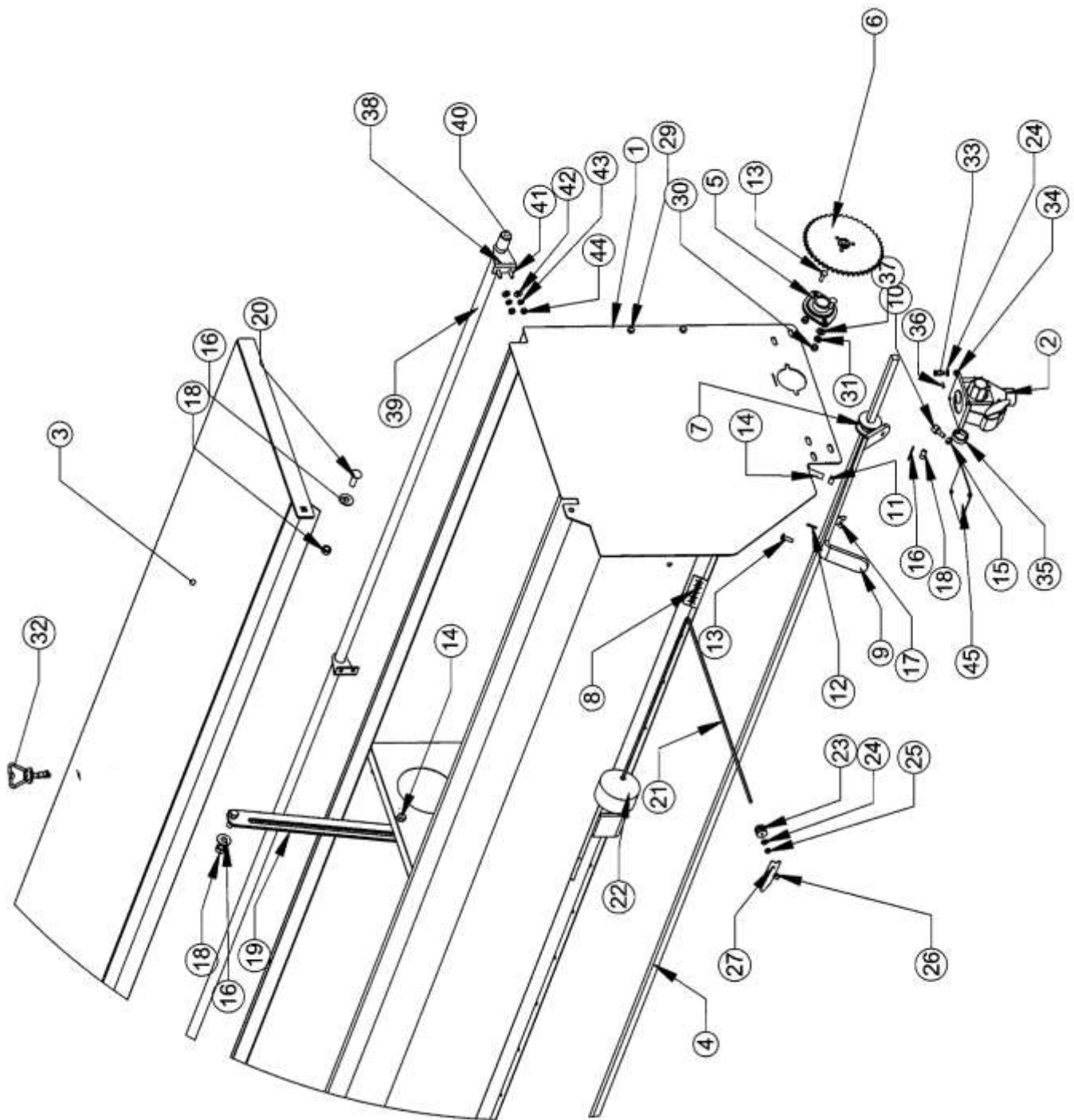
Frame - Diagram



Frame - Description

Ref #	Description	Qty	7ft		10ft		15ft	
			Part #	Qty	Part #	Qty	Part #	Qty
1	Frame Weldment	1	RM-RR1551	1	RM-RR1360	1	RM-RR1540	
2	Hex Jackshaft	1	RM-RR1274	1	RM-RR1273	1	RM-RR1547	
3	Flangette	4	RM-J00985	4	RM-J00985	6	RM-J00985	
4	Bearing, 1", Center WL CLR	2	RM-J0005	2	RM-J0005	3	RM-J0005	
5	3/8"-16 x 1" C. Bolt	2		2		2		
6	3/8"-16 x 1 1/2" C. Bolt	6		6		6		
7	3/8" Lock Washer	10		10		10		
8	3/8"-16 Hex Nut	13		13		13		
9	Meter, Acre	1	RM-J81135	1	RM-J81135	1	RM-J8116	
10	Drive Wheel, Assembly	1	RM-RR1480	1	RM-RR1480	1	RM-RR1480	
11	Shaft Collar, 1"	2	RM-J1335	2	RM-J1335	2	RM-J1335	
12	19t Sprocket -.895 Hex Bore	1	RM-RR1490	1	RM-RR1490	1	RM-RR1490	
13	Plastic Roller	2	RM-R6732	2	RM-R6732	2	RM-R6732	
14	3/8"-16 x 2 3/4" C. Bolt	2		2		2		
15	3/8" Flat Washer	11		11		11		
16	Inner Bushing	2	RM-R6733	2	RM-R6733	2	RM-R6733	
17	Shield Stand-off	3	RM-RR1327-01	3	RM-RR1327-01	3	RM-RR1327-01	
18	3/8"-16 Hex Lock Nut	3		3		3		
19	Sprocket, 40B13, .095" Hex	1	RM-R6590	1	RM-R6590	1	RM-R6590	
20	Sprocket, 40B23, .895" Hex	1	RM-RR1491	1	RM-RR1491	1	RM-RR1491	
21	Sprocket, 40B33, .895" Hex	1	RM-RR1493	1	RM-RR1493	1	RM-RR1493	
22	Drill Chain Shield	1	RM-RR1327	1	RM-RR1327	1	RM-RR1327	
23	3-Point Assembly	1	RM-RR1252	1	RM-RR1252	1	RM-RR1252	
24	2055 Shield Cover	1	RM-RR1330	1	RM-RR1330	1	RM-RR1330	
25	Rivet, Pop 3/16 3/8", #66	4	RM-J1599	4	RM-J1599	4	RM-J1599	
26	Walk Board Weldment	1	RM-RR1544	1	RM-RR1205	2	RM-RR1544	
27	1/2" Flat Washer	8		8		14		
28	1/2"-13 x 1 1/2 C. Bolt	2		2		4		
29	1/2"-13 Hex Lock Nut	4		4		6		
30	1/2"-13 x 1 3/4 HCS	1		1		2		
31	1/2"-13 Hex Nut	2		2		4		
32	Bracket Slide	1	RM-RR1137	1	RM-RR1137	2	RM-RR1137	
33	1/2"-13 x 1 1/4 HCS	2		2		4		
34	#40 Chain - 117 Links	1	RM-RR1336	1	RM-RR1336	1	RM-RR1336	
35	SMV Bracket	1	RM-W2247	1	RM-W2247	1	RM-W2247	
36	1/2" Lock Washer	1		1		1		
37	SMV Sign	1	RM-J2250	1	RM-J2250	1	RM-J2250	
38	1/4"-20 x 3/4 HCS	2		2		2		
39	1/4" Lock Washer	2		2		2		
40	1/4"-20 Hex Nut	2		2		2		
41	Shipping Stand Mounting Bracket	1	RM-R1331	1	RM-R1331	1	RM-R1331	
42	Parking Stand Weldment	3	RM-R6604	3	RM-R6604	3	RM-R6604	
43	Pin, Snapper	3	RM-J5431	3	RM-J5431	3	RM-J5431	
44	Shield Guard	1	RM-RR1454	1	RM-RR1454	1	RM-RR1454	
45	Sprocket Holder	1	RM-RR1338	1	RM-RR1338	1	RM-RR1338	
46	Tube Holder Bracket	1	RM-RR1540-15	1	RM-RR1540-15	1	RM-RR1540-15	
47	Manual Holder	1	RM-J73620	1	RM-J73620	1	RM-J73620	

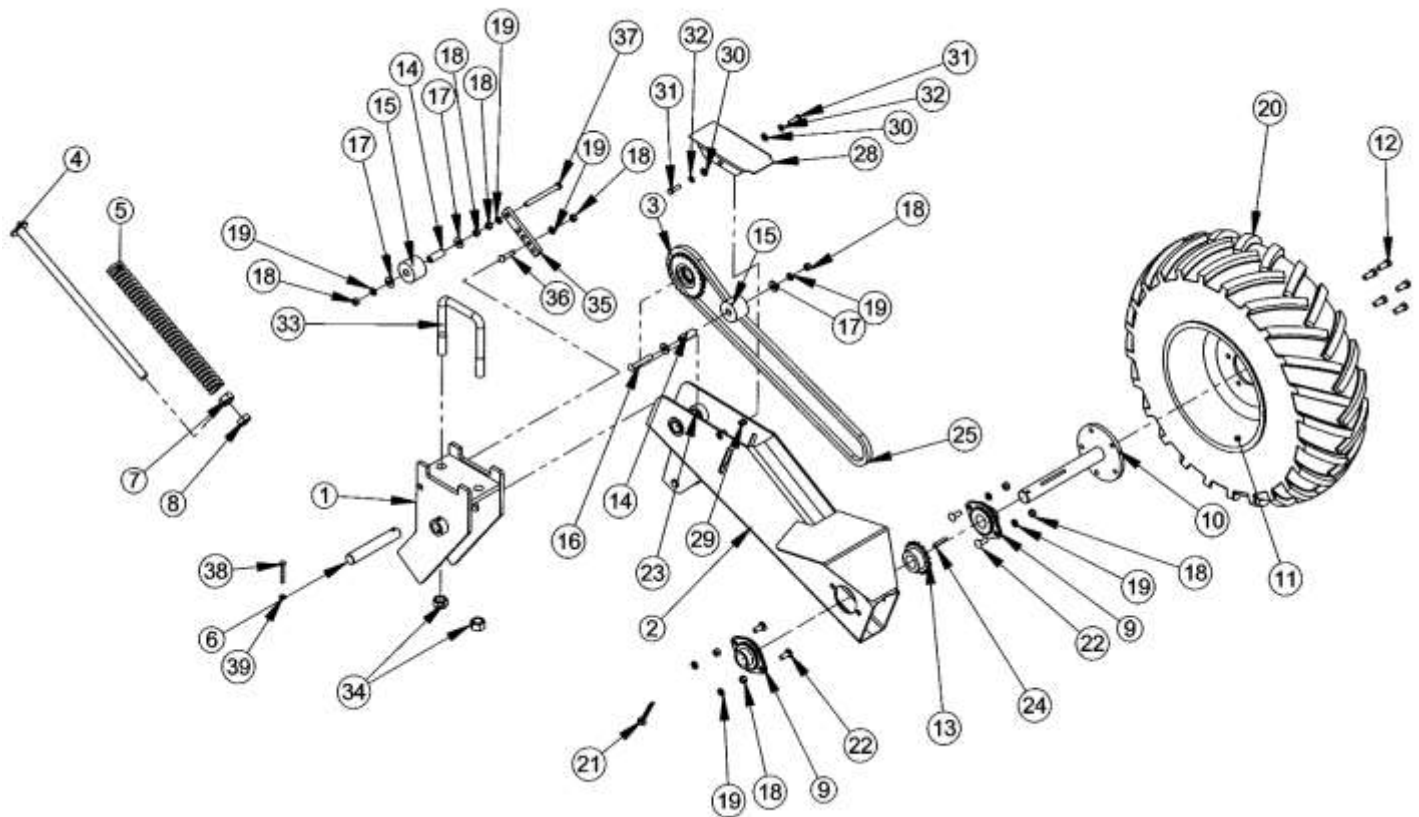
Hopper Assembly - Diagram



Hopper Assembly - Description

Ref #	Description	7ft		10ft		15ft	
		Qty	Part #	Qty	Part #	Qty	Part #
1	Hopper Weldment	1	RM-RR11541	1	RM-RR1568	1	RM-RR1541
2	Meter Housing, Assembly	12	RM-J8120	18	RM-J8120	24	RM-J8120
3	Hopper Lid Weldment	1	RM-RR1542	1	RM-RR1203	2	RM-RR1542
4	Shaft, Meter	1	RM-RR1545	1	RM-RR1207	2	RM-RR1545
5	Bearing, Flange, 1-1/4" W/Flangette	1	RM-J00901	1	RM-J00901	1	RM-J00901
6	Sprocket Drive Weldment	1	RM-R6731	1	RM-R6731	1	RM-R6731
7	Spool, Meter, Adjustment	1	RM-RR1101	1	RM-RR1101	1	RM-RR1101
8	Plate, Gauge, Lever Adjustment	1	RM-L0845	1	RM-L0845	1	RM-L0845
9	Arm, Adjusting	1	RM-RR1104	1	RM-RR1104	1	RM-RR1104
10	Bearing, Cam Follower, .75 CF 3/4S	1	RM-J0035	1	RM-J0035	1	RM-J0035
11	Spacer, Medium Swivel	1	RM-RR1105	1	RM-RR1105	1	RM-RR1105
12	5/32" x 1" Roll Pin	1	RM-J1480	1	RM-J1480	1	
13	3/8"-16 x 7/8" C. Bolt	3		3		3	
14	1/2"-13 x 1 1/2" HCS	3		3		5	
15	3/8"-24 Hex Nut - Fine Thread	1		1		1	
16	1/2" Flat Washer	5		5		7	
17	3/8"-16 Adjustment Handle	1	RM-J0039	1	RM-J0039	1	RM-J0039
18	1/2"-13 Lock Nut	5		5		7	
19	12"-20" x 90lb Gas Spring	1	RM-J0038	1	RM-J0038	2	RM-J0038
24	1/4" Flat Washer	26		38		54	
25	1/4"-20 Hex Nut	2		2		4	
29	3/8"-16 x 1" HCS	4		4		4	
30	Nut, Hex, 3/8-16, PLT	6		6		6	
31	3/8" Lock Washer	6		6		6	
32	Latch Handle Assembly	1	RM-RR1140	1	RM-RR1140	1	RM-RR1140
33	1/4"-20 x 3/4" HCS	24		36		48	
34	1/4"-20 Lock Nut	24		36		48	
35	Collar, Lock, Krause Meter	12	RM-R6565	18	RM-R6565	24	RM-R6565
36	1/4"-20 x 1/2" Setscrew	12	RM-J1075	18	RM-J1075	24	RM-J1075
37	3/8" Flat Washer	2		2		2	
39	Handle Weldment	1	RM-RR1543	1	RM-RR1278	2	RM-RR1543
41	5/16"-18 x 1" HCS	6		6		12	
43	5/16" Lock Washer	6		6		12	
44	5/16"-18 Hex Nut, Hex	6		6		12	
45	Plug, Meter, Hopper Bottom	2	RM-RR1122	2	RM-RR1122	---	-----
46	Center Drive Hub – 5/8" Sq.	---	-----	---	-----	1	RM-RR1545-01
47	Outer Drive Hub – 5/8" Sq.	1	RM-RR1545-02	1	RM-RR1545-02	1	RM-RR1545-02

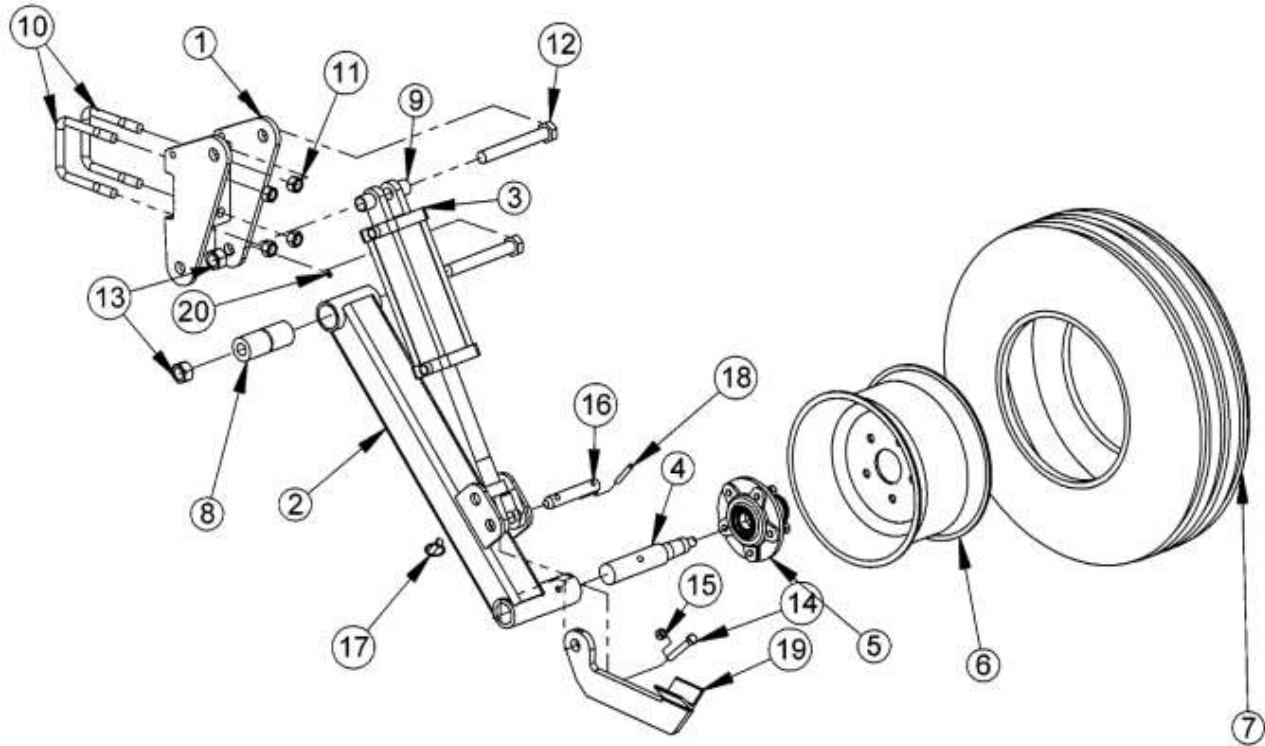
Drive Wheel - Diagram



Drive Wheel - Description

Ref #	Description	Qty.	Part #
1	Drive Wheel Mount Weld	1	RR1481
2	Drive Wheel Weld	1	RR1254
3	Pivot Sprocket Assembly	1	RR1256
4	Spring Rod Weldment	1	RR1257
5	Spring, Comp. 80#, 1.585 OD x 15"	1	J23662
6	Pin, Drive Wheel	1	RR1114
7	3/4"-10 Hex Nut	1	
8	3/4"-10 Hex Jamb Nut	1	
9	Bearing, 1-1/4", With Flanges	2	J11901
10	Weldment, Drive Axle	1	RR1115
11	5H-14 x 8 Wheel	1	J7244
12	1/2"-20 UNF x 1 1/4" Lug Nut	5	
13	Sprocket, Idler, 40B16, 1.25, Bore	1	J1640
14	Inner Bushing	2	R6733
15	Plastic Roller	2	R6732
16	3/8"-16 x 2 1/2" C. Bolt	1	
17	3/8" Flat Washer	4	
18	3/8"-16 Hex Nut	9	
19	3/8" Lock Washer	8	
20	Tire, Super Lug, 23 x 8-1/2"	1	J7243
21	Pin, Cotter, 1/4, 2 PLT	1	J1455
22	3/8"-16 x 1" C. Bolt	4	
23	Bushing, 1-1/4: x 1 x 1, Split	2	J00846
24	1/4" x 1 1/2" Key Stock	1	E9007
25	#40 Roller Chain - 98 Links	1	RR1443
26	#40 Roller Chain - 66 Links	1	RR1337
27	#40 Chain Link Connector	2	J1745
28	Guard, Drive Wheel Assembly	1	RR1474
30	5/16" Flat Washer	2	
31	5/16"-18 x 1" HCS	2	
32	5/16 Lock Washer	2	
33	3/4"-10 x 4" x 5 3/4" U-Bolt	1	J07148
34	3/4"-10 Lock Nut	2	
35	Adjustment Strap, Coulter Spring	1	R120285
36	3/8"16 x 1 1/2" C. Bolt	1	
37	3/8"-16 x 4" HCS Full Thread	1	
38	1/4"-20 x 2" HCS	1	
39	Nut, Lock, 1/4-20, PLT	2	

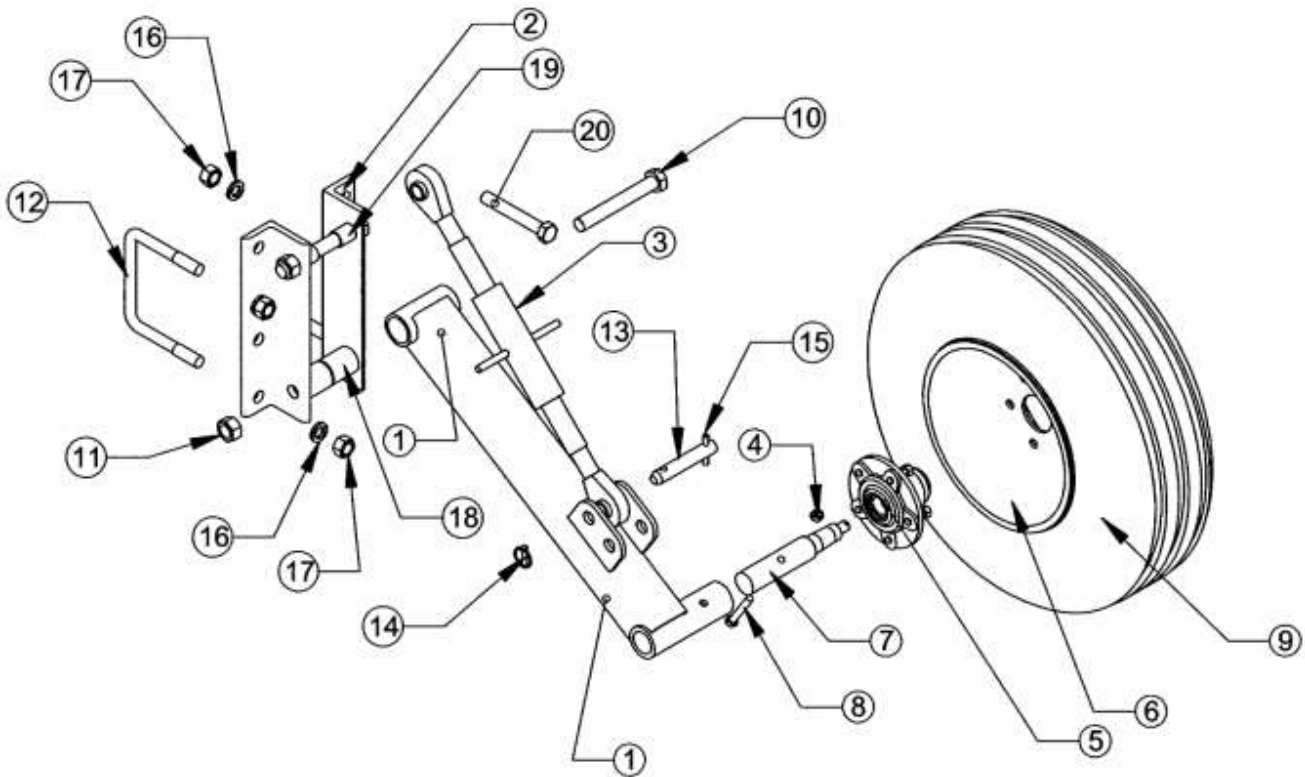
Lift Wheel Assembly - Pull Type Drill



Ref #	Description	7ft		10ft		15ft	
		Qty	Part #	Qty	Part #	Qty	Part #
1	Lift Wheel Mount Weldment	2	RM-RR1477	2	RM-RR1477	2	RM-RR1477
2	Arm Lift Wheel Weldment, Right	1	RM-RR1249	1	RM-RR1249	--	-----
2	Arm Lift Wheel Weldment, Left	1	RM-RR1242	1	RM-RR1242	--	-----
2	Arm, Lift Wheel Weldment, Dual Wheels	--	-----	--	-----	2	RM-RR1603
3	Cylinder - See Hydraulic Components	--	-----	--	-----	--	-----
4	Spindle, 5 bolt, Left & Right	2	RM-S15394	--	-----	--	-----
4	Spindle, 6 bolt, Left & Right	--	-----	2	RM-R305004	2	RM-R305004
5	Hub Assembly Complete, 5 Bolt (7Ft) Left & Right	1	RM-J7280	--	-----	--	-----
5	Hub Assembly Complete, 6 Bolt (10&15Ft) Left & Right	--	-----	2	RM-J72352	4	RM-J72352
6	Rim, Wheel, 15 x 5, 5 Bolt (7Ft) Left & Right	2	RM-J72775	--	-----	--	-----
6	Rim, Wheel, 15 x 8, 6 Bolt (10&15Ft) Left & Right	--	-----	2	RM-J72783	4	RM-J72783
7	Tire, 9.5L - 15, 6-Ply, Tube Type	2	RM-J72545	2	RM-J72545	4	RM-J72545
8	Pivot Bushing	2	RM-W20527	2	RM-W20527	2	RM-W20527
9	Spacer, 1-1/8"	4	RM-M5112	4	RM-M5112	4	RM-M5112
10	3/4"-10 x 4" x 5 3/4" U-Bolt	4	RM-J07148	4	RM-J07148	4	RM-J07148
11	Nut, Lock, 3/4 - 10 Grade B	8	RM-J1057	8	RM-J1057	8	RM-J1057
12	1"-8 x 7 1/2" HCS	4		4		4	
13	1"-8 Lock Nut	4		4		4	
14	1/2"-13 x 3 1/4" HCS	2		2		2	
15	1/2"-13 Lock	2		2		2	
16	Upper 3-pt Pin, Cat II	2	RM-S18456	2	RM-S18456	2	RM-S18456
17	7/16" Lynch Pin	2	RM-J15481	2	RM-J15481	2	RM-J15481
18	3/8" x 2 1/2" Roll Pin	2		2		2	
19	Transport Lock Weldment	2	RM-RR1519	2	RM-RR1519	2	RM-RR1519

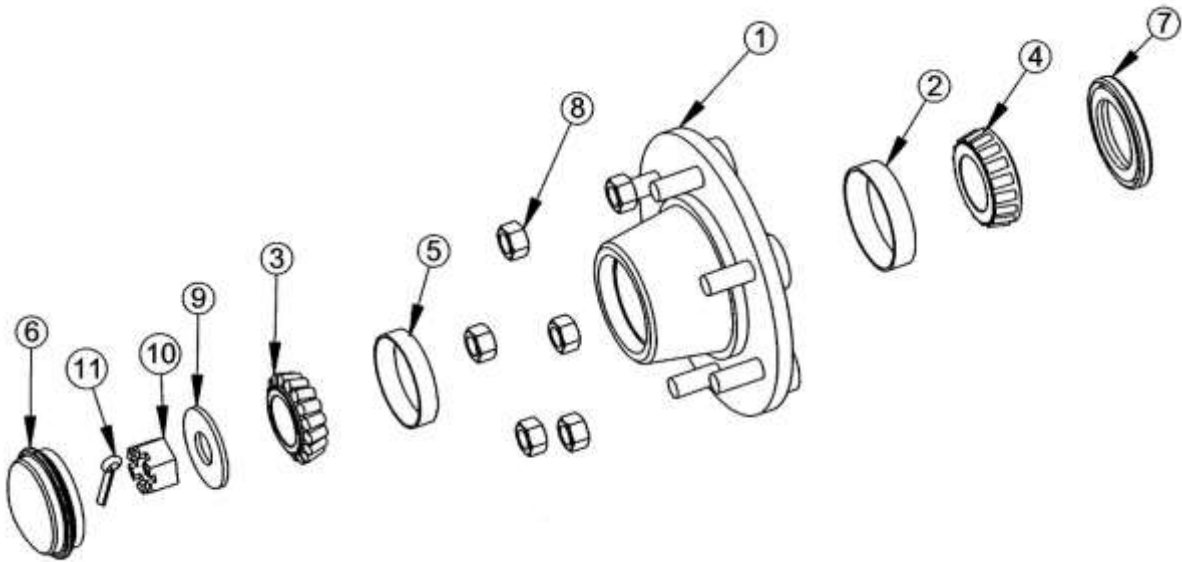
Gauge Wheel Assembly - 3 Point Drill

10' & 15' Drill Only



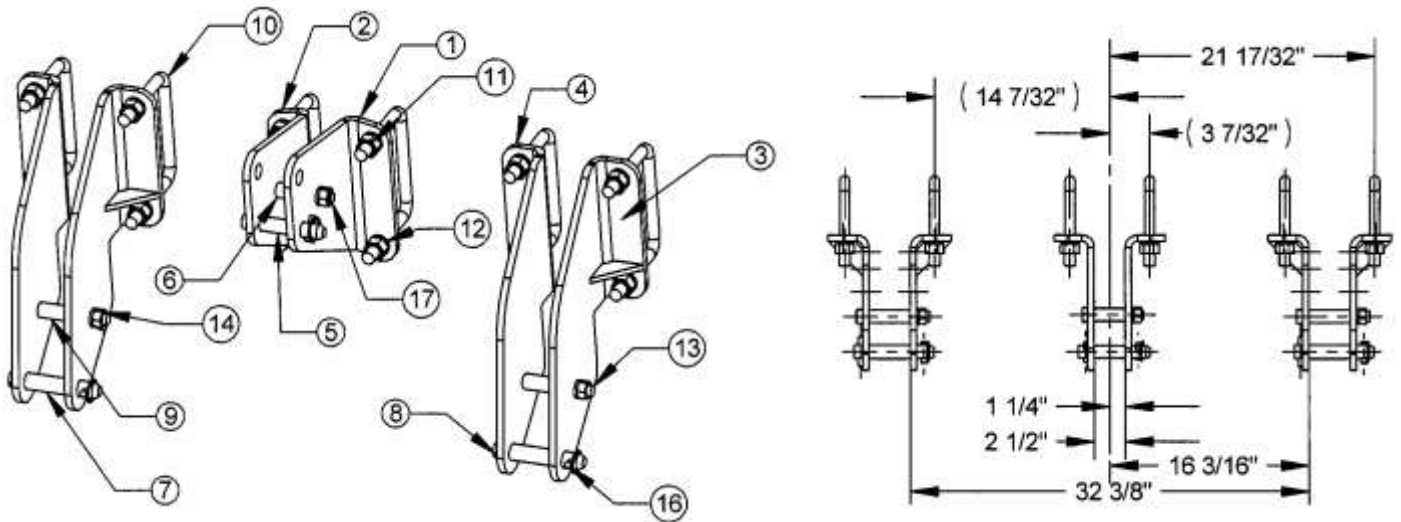
Ref. #	Description	Qty	Part #
1	Arm Lift Wheel Right	1	RM-RR1249
1	Arm Lift Wheel Left	1	RM-RR1242
2	Angle Mounting, Gauge Wheel	2	RM-RR1244
3	Turnbuckle - 1-1/8", NCX21-31	1	RM-J0905
4	1/2"-13 Lock Nut	1	
5	Hub assembly, 6 Bolt, 3000 #	1	RM-J72352
6	Rim, 6hole, 8 x 15, 4-5/8, Pilot	1	RM-J72783
7	Spindle, 6 Bolt, 3000#, 1.75" x 12"	1	RM-R305004
8	1/2"-13 x 3 1/4" HCS	1	
9	Tire, 9.5LX15, 6 Ply W/Tube	1	RM-J72545
10	1"-8 x 7 1/2" HCS	2	
11	1"-8 Lock Nut	2	
12	7/8"-9 x 7" x 6 1/2" U-Bolt	1	RM-J08373
13	Upper, 3 Point, Cat II	1	RM-S18456
14	7/16" Lynch Pin	1	RM-J15481
15	3/8" x 2 1/2" Roll Pin	1	RM-J1513
16	7/8" Lock Washer	4	
17	7/8"-9 Hex Nut	4	
18	Bushing, Pivot, Gauge Wheel	1	RM-W20527
19	Spacer, 1.25OD x 1.03ID s 1.475	2	RM-M5112
20	7/8"-9 x 6" HCS	2	

Hub Assembly - Optional



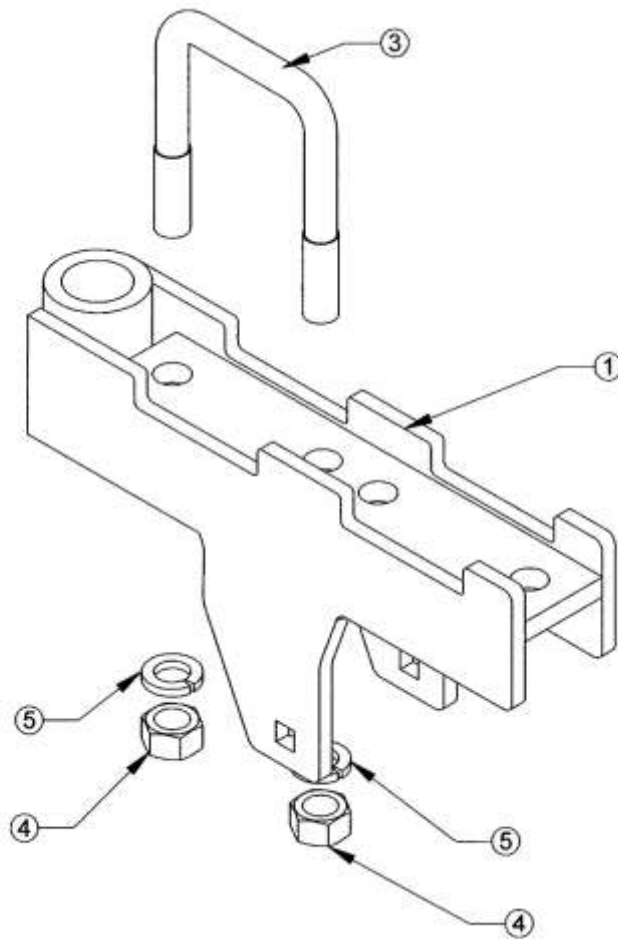
Ref #	Description	Qty	Part # (5 Bolt)	Part # (6 Bolt)
1	Hub Assembly W/Studs (includes Items 2 & 5)	1	RM-J72801	RM-J723521
2	Bearing Cup - LM485510	1	RM-J0114	-----
	Bearing Cup – LM29710		-----	RM-J01255
3	Tapered Roller Bearing – LM67048	1	RM-J0140	RM-J0140
4	Tapered Roller Bearing – LM48548	1	RMJ0113	-----
	Tapered Roller Bearing – LM29749		-----	RM-J01254
5	Bearing Cup – LM67010	1	RM-J0141	RM-J0141
6	Dust Cover – 2 7/16" OD	1	RM-J72331	RM-J72331
7	Dust Seal - CR17617 HB18	1	RM-J7018	RM-J7018
8	1/2"-20 Wheel Nut	6	RM-J1043	RM-J1043
9	3/4" Flat Washer	1		
10	3/4"-16, Slotted Hex Nut	1		
11	3/16" x 1 1/2" Cotter Pin	1		
12	Spindle (not shown)	1	RM-S15394	RM-R305004
	Complete Hub & Spindle Package (includes items 1-12)		RM-J7280	RM-J72352

3 Point Hitch



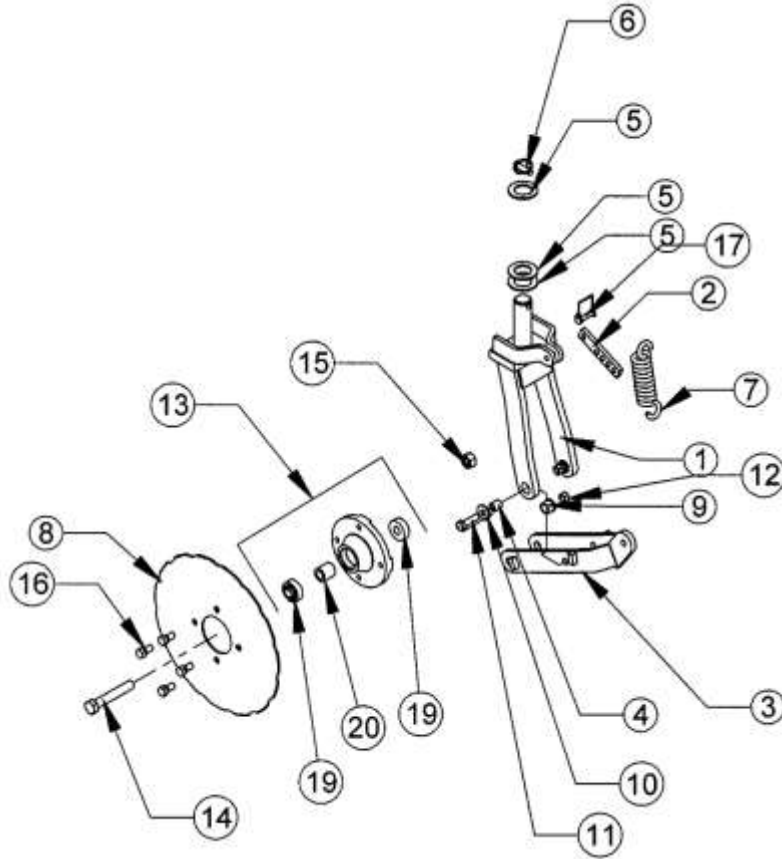
Ref #	Description	Qty	Part #
1	Plate, Center Mast, Left	1	RM-RR1247
2	Plate, Center Mast, Right	1	RM-RR1248
3	Lower Arm Weldment, Left	2	RM-RR1245
4	Lower Arm Weldment, Right	2	RM-RR1246
5	Pin, Upper 3PT, Cat II	1	RM-S18456
6	Bushing, 3/4ID, Sch40, 20 1/2" Long	1	RM-RR1250
7	Pin, Lower, 1-1/8 x 4-3/4 x 6, Long	2	RM-J15387
8	3/8" x 2 1/2" Roll Pin	3	
9	Bushing, 3/4ID, Sch40, 3-3/8" Long	2	RM-RR1251
10	7/8"-9 x 7" x 6 1/2" U-Bolt	6	RM-J08373
11	7/8"-9 Hex Nut	12	
12	7/8" Lock Washer	12	
13	3/4"-10 x 5 1/2" HCS	2	
14	3/4"-10 Lock Nut	3	
16	7/16" Lynch Pin	3	RM-J15483
17	3/4"-10 x 4 1/2" HCS	1	

No-Till Mounting Bracket



Ref #	Description	Qty	Part #
1	No-Till Mounting Bracket	1	RM-RR1240
3	3/4"-10 x 3 1/2" x 5" U-Bolt	1	RM-J0714
4	3/4"-10 Hex Nut	2	
5	3/4" Lock Washer	2	

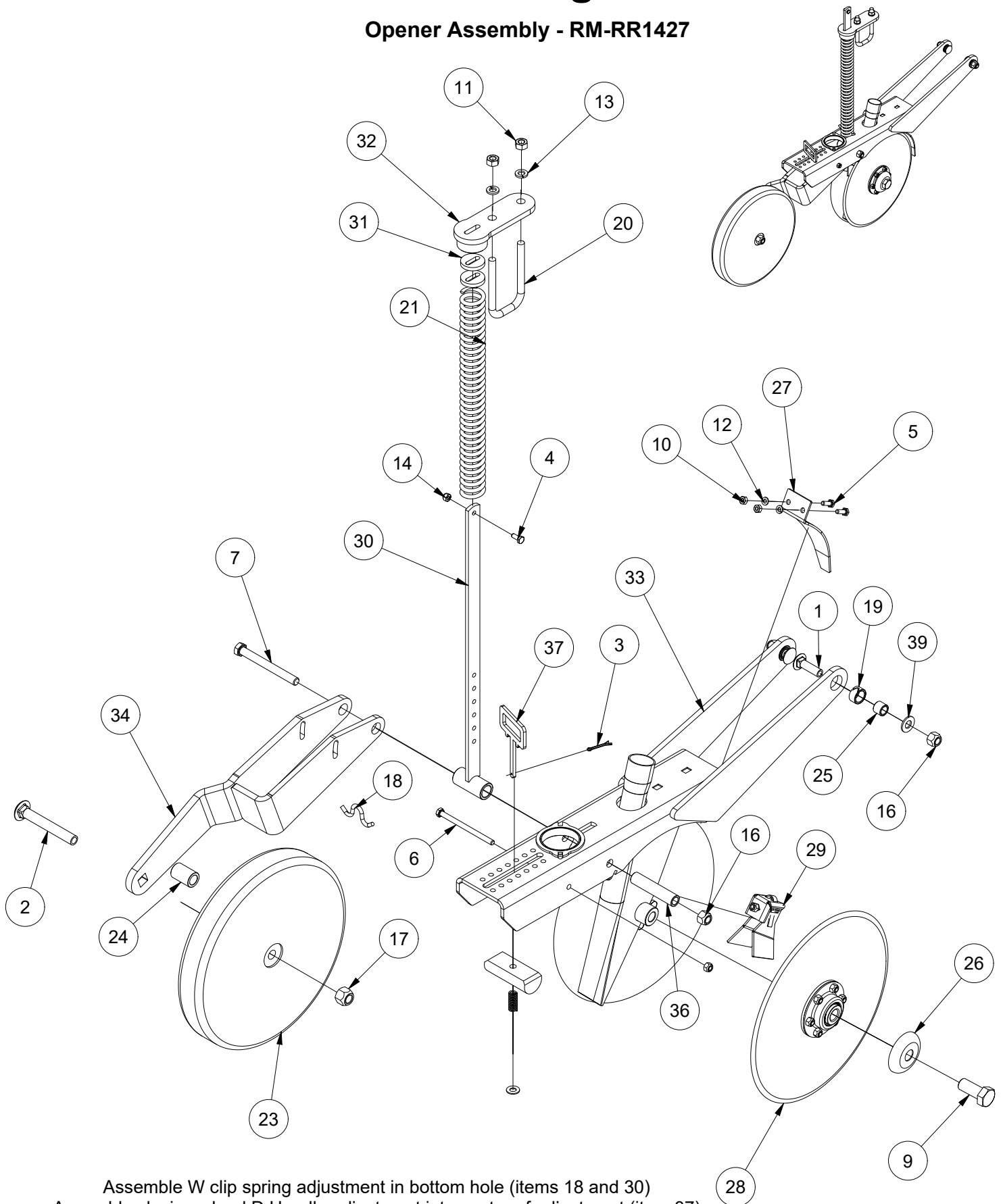
No-Till Coulter Assembly



Ref #	Description	Qty	Part #
1	Coulter Fork Assembly	1	RM-R520192
2	Adjustment Strap, Coulter Spring	1	RM-R120285
3	Coulter Yoke	1	RM-R520195
4	Bushing, Swivel, Large	2	RM-R103003
5	1 1/2" Machine Bushing – 10 Ga	3	
6	7/16" Lynch Pin	1	RM-J15483
7	Spring, 2" ID, 10 Coil, 9", 3/8" Wire	1	RM-J2382
8	15" Fluted Coulter Blade	1	RM-K5624
9	Bushing, Oilite Brass	2	RM-J00821
10	1/2" Flat Washer	2	
11	1/2"-13 x 1 3/4" HCS	2	
12	1/2"-13 Lock Nut	2	
13	Sealed No-Till Hub Assembly	1	RM-RR1367
14	3/4"-10 x 4 1/2" HCS	1	
15	3/4"-10 Lock Nut	1	
16	1/2"-20 x 1 1/4" HCS	4	
17	Pin, Snapper	1	RM-J5430
18	1/2" Lock Washer	4	
19	Bearing, 3/4", FAFNIR RA012RR	2	RM-J00303
20	Spacer	1	RM-RR1368

Parts Diagram

Opener Assembly - RM-RR1427



Assemble W clip spring adjustment in bottom hole (items 18 and 30)

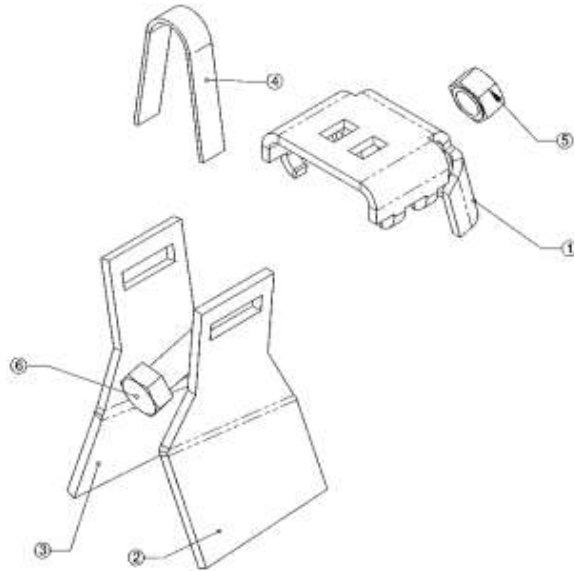
Assemble closing wheel D Handle adjustment into center of adjustment (item 37)

Parts Description

RM-RR1427

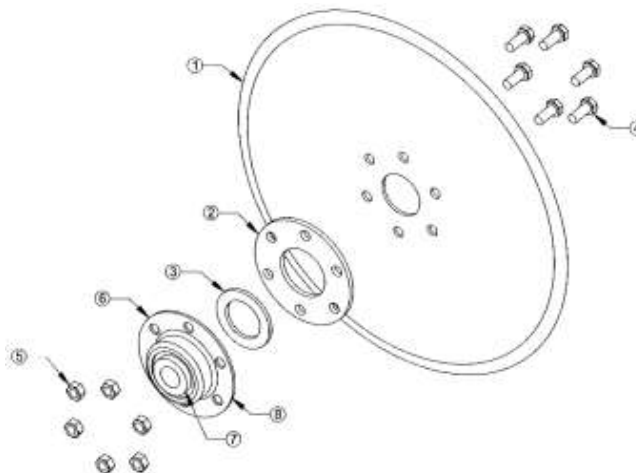
Item	Part Number	Description	Qty
1	CBGR50.5-13x1.75ZF	1/2-13 UNC x 1.75 Gr 5 Carriage Bolt	2
2	CBGR50.625-11x4.5ZF	5/8-11 UNC x 4.5 Gr 5 Carriage Bolt	1
3	CK0.13x01.25ZF	Cotter Pin 1/8 x 1 1/4 ZF	1
4	HCSGR50.25-20x0.625ZF	Hex Cap Screw 1/4-20 UNC x 0.625 w/ Std. Thread Gr.5 Zinc	1
5	HCSGR50.25-20x0.75ZF	Hex Cap Screw 1/4-20 UNC x 0.75 w/ Std. Thread Gr.5 Zinc	2
6	HCSGR50.3125-18x4.5ZF	Hex Cap Screw 5/16-18 UNC x 4.5 w/ Std. Thread Gr.5 Zinc	1
7	HCSGR50.5-13x4.75ZF	1/2-13 UNC x 4.75 Hex Cap Screw w/ Std. Thread	1
8	HCSGR50.75-10x1.75LHZF	Hex Cap Screw 3/4-10 UNC x 1.75 LH w/ Std. Thread Gr. 5 Zinc	1
9	HCSGR50.75-10x1.75ZF	Hex Cap Screw 3/4-10 UNC x 1.75 w/ Std. Thread Gr.5 Zinc	1
10	HN0.25-20ZF	1/4-20 UNC Hex Nut	2
11	HN0.4375-14ZF	7/16-14 UNC Hex Nut	2
12	LW0.25ZF	1/4 Lock Washer	2
13	LW0.4375ZF	7/16 Lock Washer	2
14	OLNGRC0.25-20ZF	1/4-20 UNC Hex Lock Nut	1
15	OLNGRC0.3125-18ZF	5/16-18 UNC Hex Lock Nut	1
16	OLNGRC0.5-13ZF	1/2-13 UNC Hex Lock Nut	3
17	OLNGRC0.625-11ZF	5/8-11 UNC Hex Lock Nut	1
18	RM-J0044	"W" Clip - Lower Down Pressure Spring	1
19	RM-J00752	Split Spring Bushing - 1 x 3/4 x 1/2	2
20	RM-J0839	7/16-14 x 2 x 4 1/4 Sq. U-Bolt	1
21	RM-J23662	Down Pressure Spring - 80#	1
22	RM-J2381	T-Handle Compression Spring	1
23	RM-J72661	2 x 13 Press Wheel Assembly	1
24	RM-M2207	Opener Tail Wheel Bushing	1
25	RM-M3320	Bushing, 3/4 x 1/2 x 5/8 Long	2
26	RM-R124023	Opener Blade Dust Shield	2
27	RM-R520384	Disk Opener Guard	1
28	RM-R522045	Complete Disc Opener Blade Assembly	2
29	RM-R522876	Opener Blade Complete Scraper Assembly	1
30	RM-R6554	Down Pressure Spring Rod Weldment	1
31	RM-R9999	Downpressure Plastic Spring Bushing	2
32	RM-RR1306	Down Pressure Spring Bracket Weldment	1
33	RM-RR1343	Opener Frame Weldment	1
34	RM-RR1344	Press Wheel - Single Side	1
35	RM-RR1345	Depth Adjustment Block	1
36	RM-RR1347	Down Pressure Spring Bushing	1
37	RM-RR7014	Opener D-Handle	1
38	WS0.375ZF	3/8 SAE Washer	1
39	WS0.5ZF	1/2 SAE Washer	2

Scraper Assembly



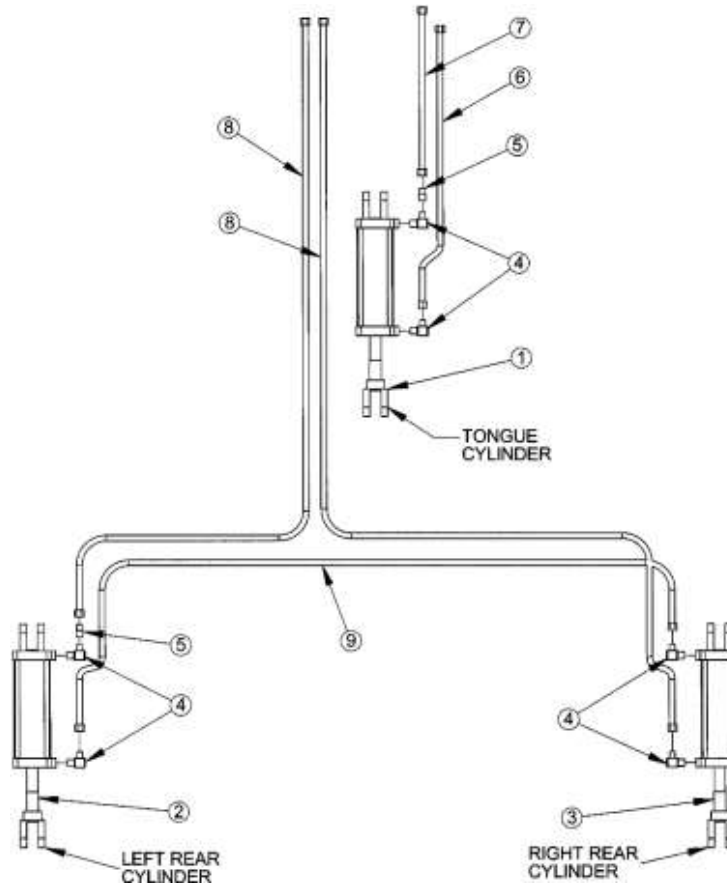
Ref #	Description	Qty	Part #
1	Bracket, Scraper Mounting	1	RM-J2384
2	Scraper, Inside, Left - Opener	1	RM-R120272
3	Scraper, Inside, Right - Opener	1	RM-R120271
4	Spring, Scrapers	1	RM-J8131
5	5/16"-18 Hex Lock Nut	1	

Double Disk Opener Blade Assembly



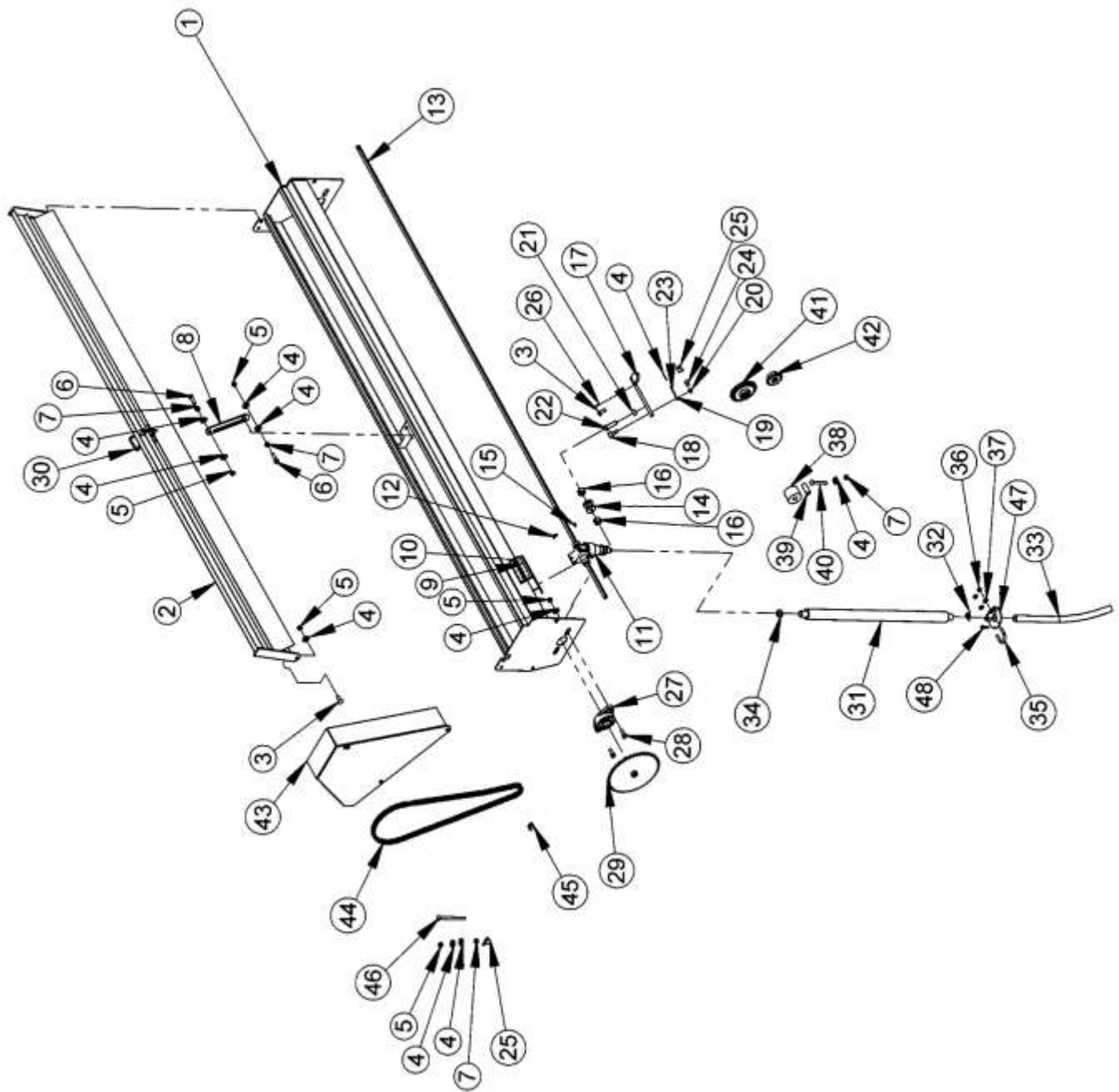
Ref #	Description	Qty	Part #
1	Blade, Disc, 13"	1	RM-K5577
2	Plate, Bearing D/O	1	RM-R105009
3	1 3/8" Machine Bushing – 10 Ga	1	
4	5/16"-18 x 3/4" HCS	6	
5	5/16"-18 Hex Lock Nut	6	
6	Bearing, 3/4" ID, with Flange	1	RM-J00541
7	Bearing Only	1	RM-J0054
8	Flange Only	1	RM-J00064

Hydraulic Components - Pull Type Drill



Ref #	Description	Cylinder Seal Kit	7FT		10FT		15FT	
			Qty	Part #	Qty	Part #	Qty	Part #
1	Cylinder, 3 x 8", W/ STP	RM-J72021	1	RM-J71945	1	RM-J71945	---	-----
1	Cylinder, 3.5 x 8", ASAE	RM-J71073	---	-----	---	-----	1	RM-J7107
2	Cylinder, 2.75 x 8", RPHSNG, W/STP	RM-J71935	1	RM-J7193	1	RM-J7193	---	-----
2	Cylinder, 3 x 8", RPHSING, W/ STP	RM-J72022	---	-----	---	-----	1	RM-J71931
3	Cylinder, 2.5 x 8", RPHSING, W/ Pins	RM-J720020	1	RM-J7174	1	RM-J7174	---	-----
3	Cylinder, 2.75 x 8", RPHSNG, W/ Pins	RM-J71935	---	-----	---	-----	1	RM-J71941
4	Elbow 90° 1/2MIP x 3/4 - 16MJIC, 1208		6	RM-J71021	6	RM-J71021	6	RM-J71021
5	Restrictor - 3/4"		2	RM-J71028	2	RM-J71028	2	RM-J71028
6	Hydraulic Hose, 3/8" ID x 6' W/ Fittings		1	RM-S1905	1	RM-S1905	1	RM-S1905
7	Hydraulic Hose, 3/8" ID x 5' W/ Fittings		1	RM-M3736	1	RM-M3736	1	RM-M3736
8	Hydraulic Hose, 3/8" ID x 19' 6" W/ Fittings		2	RM-RR1469	---	-----	---	-----
	Hydraulic Hose, 3/8" ID x 21' W/ Fittings		---	-----	2	RM-G2212	---	-----
	Hydraulic Hose, 3/8" ID x 23' 6" W/ Fittings		---	-----	---	-----	2	RM-RR1557
9	Hydraulic Hose, 3/8" ID 7.5' W/ Fittings		1	RM-M3442	---	-----	---	-----
	Hydraulic Hose, 3/8" ID x 10' 6" W/ Fittings		---	-----	1	RM-RR1515	---	-----
	Hydraulic Hose, 3/8" ID x 15' 6" W/ Fittings		---	-----	---	-----	1	RM-RR1556

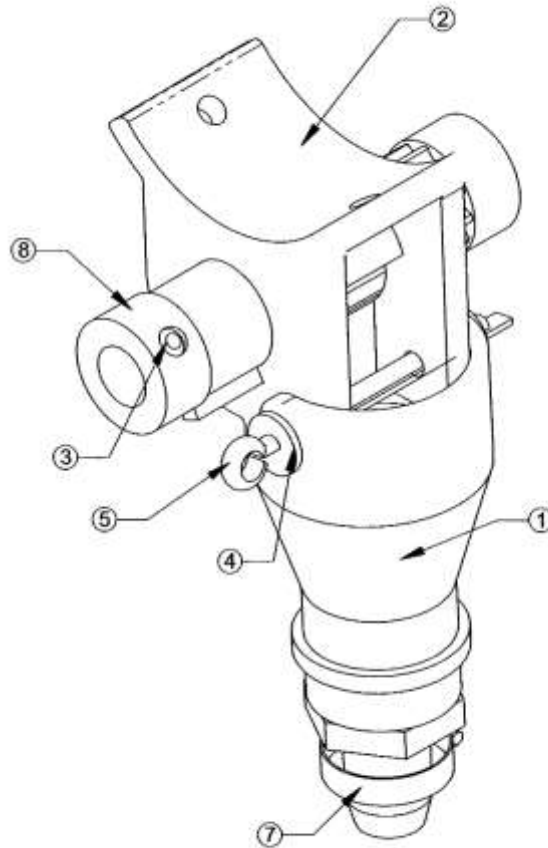
Small Seed Hopper Assembly - Diagram (Optional)



Small Seed Hopper Assembly - Description (Optional)

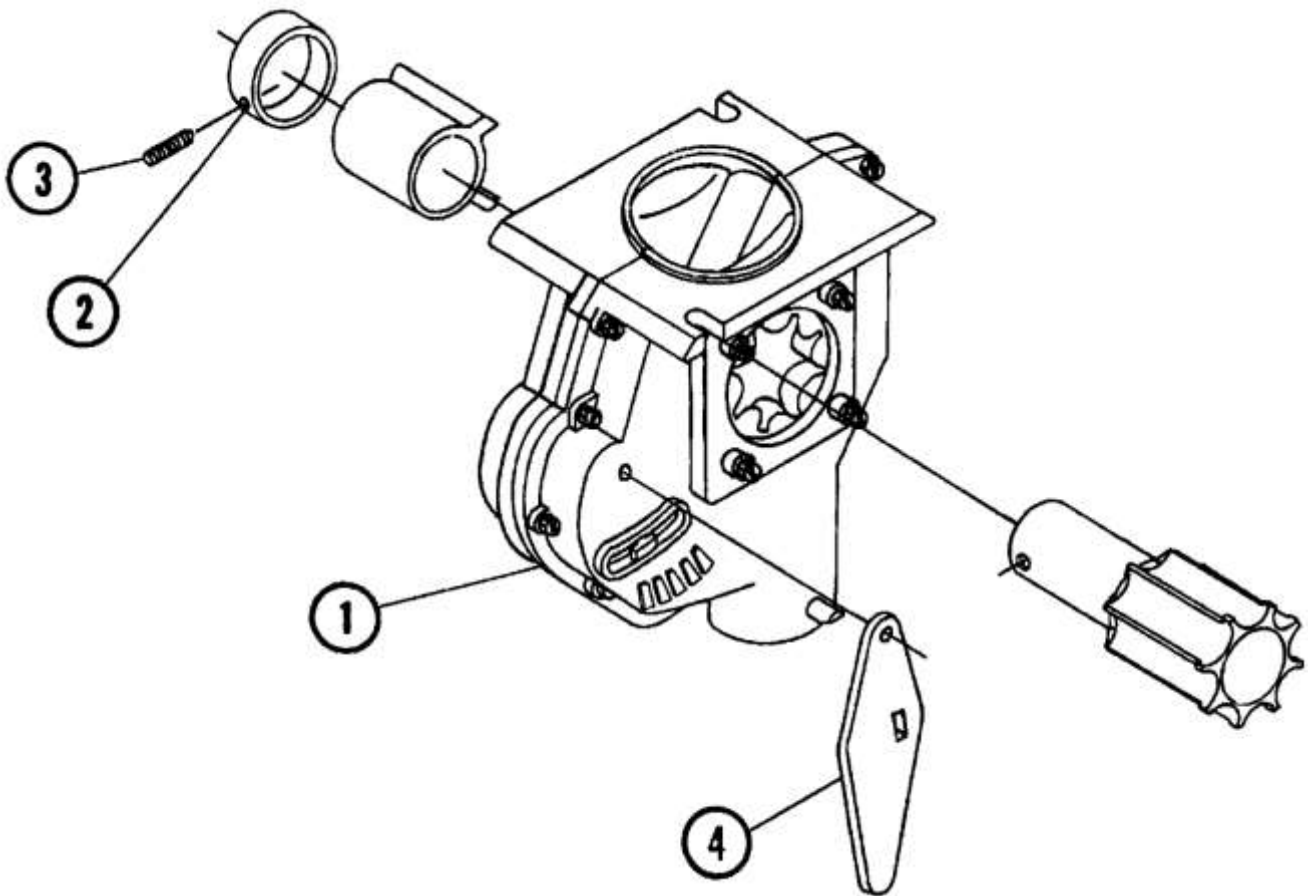
Ref #	Description	7ft		10ft		15ft	
		Qty	Part #	Qty	Part #	Qty	Part #
1	Small Hopper Weldment	1	RM-RR1548	1	RM-RR1302	2	RM-RR1548
2	Weldment, Lid,	1	RM-RR1549	1	RM-RR1304	2	RM-RR1549
3	3/8"16 x 1" C. Bolt	3		3		6	
4	3/8" Flat Washer	12		12		24	
5	3/8"-16 Hex Lock Nut	7		7		14	
6	3/8"-16 x 1 1/4" HCS	2		2		4	
7	3/8"-16 Hex Nut	4		4		8	
8	6"-9 5/8" x 30lb Gas Spring	1	RM-J0043	1	RM-J0043	2	RM-J0043
9	Plate, Gauge, Lever Adjustment	1	RM-L0845	1	RM-L0845	1	RM-L0845
10	Rivet, Pop, 3/16 x 3/8, #66	2	RM-J1599	2	RM-J1599	2	RM-J1599
11	Assembly, Grass Seed Meter	12	RM-R522449	18	RM-R522449	24	RM-R522449
12	1/4"-20 x 1/2" HCS	24		36		48	
13	Meter Shaft	1	RM-RR1550	1	RM-RR1307	2	RM-RR1550
14	Spool, Adjustment, Meter	1	RM-RR1119	1	RM-RR1119	1	RM-RR1119
15	1/4"-20 x 1/2" Hex Lock Nut	24		36		48	
16	Shaft Collar - Modified	2	RM-M3709	2	RM-M3709	2	RM-M3709
17	Handle Meter Adjustment	1	RM-RR1121	1	RM-RR1121	1	RR1121
18	Bearing, .75, Cam Follower, CF	1	RM-J0035	1	RM-J0035	1	RM-J0035
19	3/8" Lock Washer	1		1		1	
20	3/8"-24 UNF Hex Nut Fine Thread	1		1		1	
21	Spacer, Medium Swivel	1	RM-RR1105	1	RM-RR1105	1	RM-RR1105
22	1/2"-13 x 1 1/2" HCS	1		1		1	
23	1/2" Flat Washer	1		1		1	
24	1/2"-13 Hex Lock Nut	1		1		1	
25	3/8"-16 Adjustment Handle	2	RM-J0039	2	RM-J0039	2	RM-J0039
26	5/32" x 1" Roll Pin	1	RM-J1480	1	RM-J1480	1	RM-J1480
27	Bearing, 1", Flange	1	RM-J0003	1	RM-J0003	1	RM-J0003
28	3/8"-16 x 1" HCS	2		2		2	
29	Sprocket, Weldment, 47 Tooth	1	RM-RR1324	1	RM-RR1324	1	RM-RR1324
30	Latch Handle Assembly	1	RM-RR1140	1	RM-RR1140	2	RM-RR1140
31	Small Seed Tube, Grass Seed	12	RM-J7363	18	RM-J7363	24	RM-J7363
32	Clamp, Seed Tube	12	RM-J7364	18	RM-J7364	24	RM-J7364
33	Grass Seed Tube	12	RM-RR1332	18	RM-RR1332	24	RM-RR1332
34	Hose Clamp	12	RM-J23192	18	RM-J23192	24	RM-J23192
35	5/16"-18 U-Bolt	12	RM-J0810	18	RM-J0810	24	RM-J0810
36	5/16"-18 Hex Lock Nut	24		36		48	
37	5/16" Flat Washer	24		36		48	
38	Plastic Roller	1	RM-R6732	1	RM-R6732	1	RM-R6732
39	Inner Bushing	1	RM-R6733	1	RM-R6733	1	RM-R6733
40	3/8"-16 x 2 1/2" C. Bolt	1		1		1	
43	Grass Seeder Shield	1	RM-RR1328	1	RM-RR1328	1	RM-RR1328
44	#40 Chain - 99 Links	1	RM-R624188	1	RM-R624188	1	RM-R624188
45	#40 Chain Link Connector	1	RM-J1745	1	RM-J1745	1	RM-J1745
46	3/8"-16 x 4 1/2" C. Bolt	12		1		1	
47	Weldment, Small Grass Seed Tube Holder	12	RM-RR1365	18	RM-RR1365	24	RM-RR1365
48	1/4"-20 x 1" HCS	24		36		48	

Small Seed Meter Assembly



Ref #	Description	Qty	Part #
1	Swivel Bamlet	1	RM-R820015
2	Seed Meter, GS, Housing, Roller, Bushing	1	RM-R522458
3	1/4"-20 x 1/4" Socket Head Setscrew	2	
4	3/16" Flat Washer	2	
5	3/16" x 2 1/2" Bolt	1	
	3/16" Hex Lock Nut	1	
7	Hose Clamp, 5/8-1", #5	1	RM-J23192
8	Shaft, Collar, 1/2"	2	RM-M3709

Large Seed Meter Assembly



Ref #	Description	Qty	Part #
1	Seed Meter Assembly (Includes Ref. #4)	1	RM-J8120
2	Lock Collar	1	RM-R6565
3	1/4"-20 x 1/4" Socket Head Setscrew	1	
4	Lever, Seed Cup Gate	1	RM-J8120-03

Native Grass Seeder Attachment - (Optional)

The Native Grass Seeder (NGS) is designed to plant large fluffy seeds that generally would not flow through a conventional seed meter or standard size seed tube. It has aggressive agitators in the hopper that keep the seed from bridging up and feed it into the saw-toothed picker wheels. The picker wheels act as the seed meter; they grab the seed and feed it into the oversized seed tube for delivery to the opener.

Calculating How Much to Plant

The seeds planted with a NGS generally have highly varying amounts of trash or inert material mixed in with the actual seed because it is very hard seed to clean. The amount of seed that will actually germinate will also differ. Recommended planted rates are usually based on the amount of Pure Live Seed (PLS) to be planted. To get the right amount of PLS seed planted, you will have to plant extra to compensate for the inert material and dead seed that will not germinate. Use the following formula to calculate your Actual Seed Rate. (Inert Material % and Germination % should be available from your seed supplier).

$$\text{Actual Seeding Rate (lbs./acre)} = \frac{\text{Desired Rate of PLS}}{(1 - \% \text{ Inert Material}) \times (\% \text{ Germination})}$$

Note: Percentages should be in decimal form.

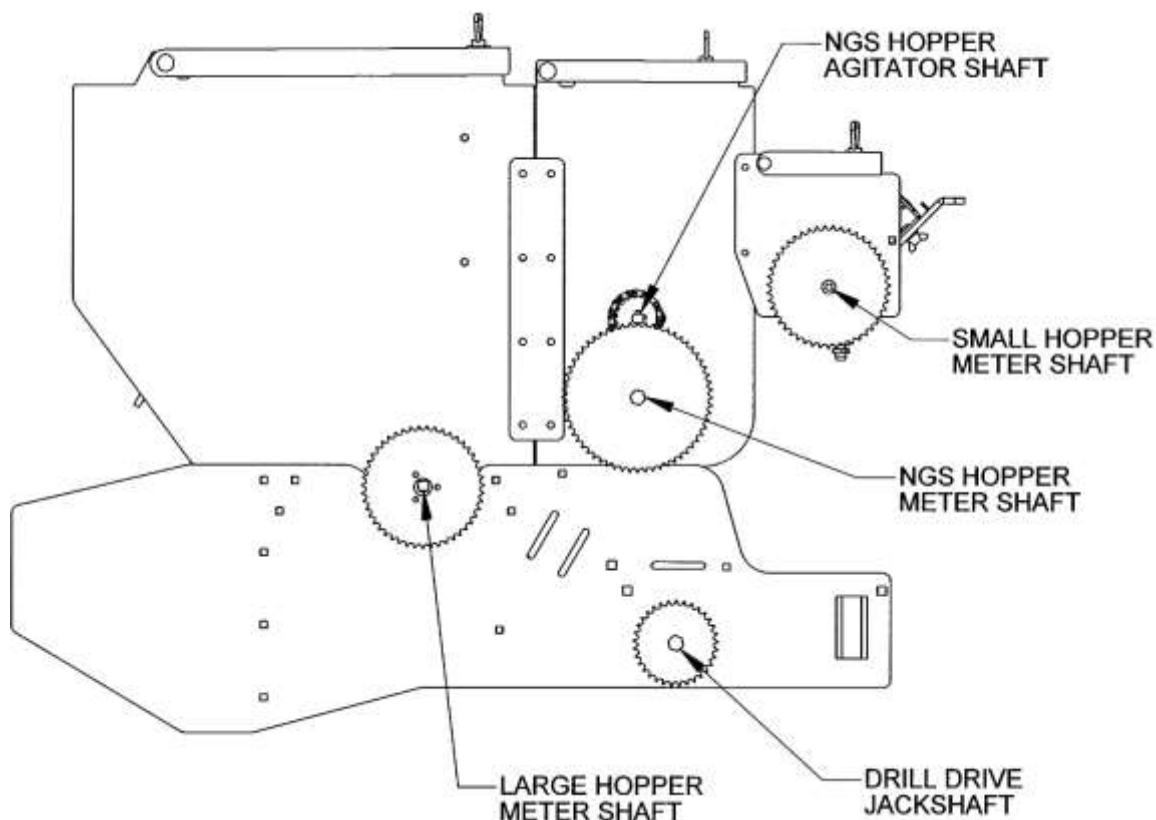
Example: Plant a desired seed rate of 10lbs/ac of Pure Live Seed. The seed has 40% inert material and a 75% germination rate. What actual seeding rate should be planted?

$$\text{Actual Seeding Rate} = \frac{10 \text{ lbs./ac}}{(1 - .40) \times (.75)} = 22.2 \text{ lbs./ac}$$

Seed Rate Adjustment

The picker wheels do not have adjustable flutes, like the standard seed meters, that change the seed rate. The only way to change the seed rate of the NGS is to change the speed of the picker wheels. This is done on the Remlinger drill with a variety of sprocket combinations between the drill's Jack Shaft and the Meter shaft that the picker wheels are on. There are 10 different sprocket combinations for the NGS as seen on the following chart. Each sprocket combination also has a chain size listed for it. The drill is shipped in Setting #7, which has a 33-tooth sprocket on the Jack Shaft, a 60-tooth sprocket on the Meter Shaft, and uses a 79, 9, 7, & 13 link lengths of chain and 4 connector links. To change to Setting # 6, you would put the 15-tooth sprocket on the Jack Shaft and the 33-tooth sprocket on the Meter Shaft, and remove the 7 and 13 link chain lengths and connectors from the drive chain.

Standard Sprocket Ratios



Setting #	Jack Shaft	Meter Shaft	# of Chain Links
1	13 Tooth	60 Tooth	Adjust Tension Rollers as Required. (see photos following seed charts)
2	15 Tooth	60 Tooth	
3	13 Tooth	48 Tooth	
4	15 Tooth	48 Tooth	
5	13 Tooth	33 Tooth	
6	15 Tooth	33 Tooth	
7	33 Tooth	60 Tooth	
8	33 Tooth	48 Tooth	
9	13 Tooth	15 Tooth	
10	15 Tooth	13 Tooth	

The lower the setting # the lower the seed rate.

The higher the setting # the higher the seed rate

Seed Charts are not possible due to the large variation in seed size.

Calibrating the Seed Rate

There are no seed charts for the NGS hopper due to the wide range of seed purity and germination associated with native grass seed. The only way to determine what seed rate your drill is planting is to calibrate it. Fill the NGS hopper with seed to at least 1/3 full. The hopper should always have seed completely covering the agitators when calibrating or planting with the drill, consider the hopper empty when the seed level reaches the top of the agitators because the seed rate may become very inconsistent with a low seed level. You may want to drive around with seed in the drill prior to calibrating because the seed will tend to settle and pack down in the hopper, which will increase the seed rate.

Pick a sprocket setting based on past experience, or start with one of the middle settings. Raise the drill and put something under the NGS seed tubes to collect the seed (a plastic tarp works well for this). When calibrating the NGS hopper, it is recommended to catch seed from all the openers because the seed is very light, you will have a sample large enough to accurately weigh with fewer turns of the drive wheel, and no seed will be wasted. Disconnect the drive chains to the main hopper and the small hopper if there is seed in them so that the calibration sample will come only from the NGS box. Use the calibration formula on page 56 of this manual. If the seed rate is too low, go to a higher sprocket setting #; if the seed rate is high, go to a lower sprocket setting #.

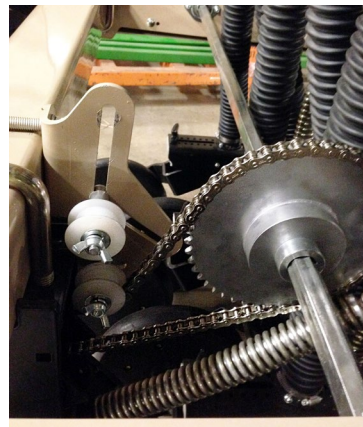
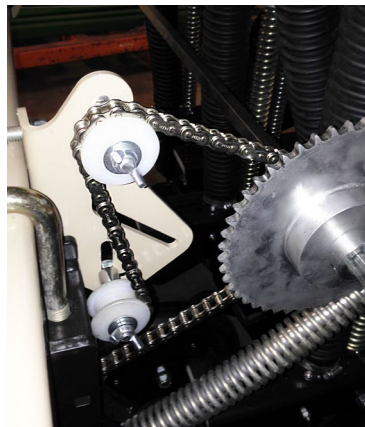
Drill Setup

Native grass seed should usually be planted shallow, 1/4-1/2" deep. To achieve this very shallow planting depth, the frame height of the drill should be set on the high side (22-23") which will decrease the spring down pressure on the no-till coulters and openers. The no-till coulters should be set just deep enough to cut through the residue and prevent plugging. The T-handle on the opener should be set toward the front of its travel, this will set the planting depth of the opener.

The operator must check seed placement and rate often to react to changes in seed and soil condition.

Seed Charts

The NGS itself does not have any seed charts. To make the drill's drive system run slow enough to plant the low seed rates typically associated with native grasses, the sprocket on the jackshaft that is run by the drive wheel is changed from the 19-tooth (left photo) to a 48-tooth (right photo) sprocket. This sprocket change does affect the seed charts for both the large and small seed hoppers. Do not use the seed charts in the middle of this manual. The following seed charts (L1013 & L1014) should be used for the large and small seed hoppers on a drill with a NGS, note the 48-tooth sprocket in the Sprocket Arrangement Drawing on the bottom of each chart.



Seed Charts with Native Grass Seed Option



Seed Chart - L1013

with Native Grass Seed Attachment

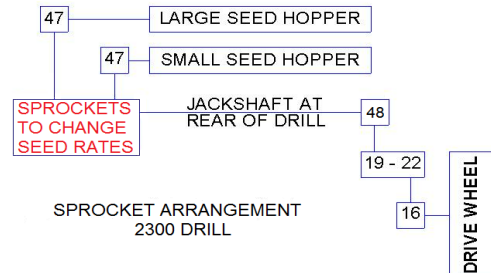
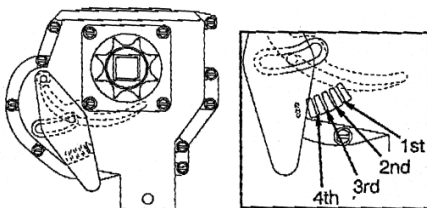
Chart in Pounds per Acre

Large Seed Hopper - 2300 Drill

Row Spacing: 7 1/2"

Seed Type	Meter Gate Setting	Sprocket Size	Meter Opening - as Indicated on Drill																
			1/16"	1/8"	3/16"	1/4"	5/16"	3/8"	7/16"	1/2"	9/16"	5/8"	11/16"	3/4"	13/16"	7/8"	15/16"	1"	
Barley	1	13				8	10	13	15	17	19	21	24	26	28	29	31	34	
	1	23				15	18	23	26	29	33	37	42	46	49	52	56	61	
Fescue	1	13				4	5	6	7	8	10	11	12	13	14	15	15	16	
Kidney Beans	2 or 3	13									18	18	18	18	18	18	18	18	
	2 or 3	23									32	32	32	32	32	32	32	32	
Milo	1	13			8	10	13	15	18	20	23	25	28	30					
Oats	1	13						8	10	11	12	14	15	17	18	19	21	21	
	1	23						14	17	20	22	25	27	29	31	34	37	38	
	1	33						20	24	28	31	36	39	42	45	49	52	55	
Peas	2 or 3	13									18	22	25	28	31	34	37	40	
	2 or 3	23									33	38	44	50	55	61	66	70	
		33									47	55	63	72	79	87	95	101	
Pinto Beans	4	13								18		23		29		34		41	
Rice	1	13				9	11	14	15	18	19	21	23	25	28	29	32	34	
	1	23				15	20	25	27	31	34	37	41	45	49	52	56	61	
Soybeans	2	13					14	17	21	25	29	33	37	40	45	50	54	57	
Up to 3000 seeds/lb	2	23					25	30	37	45	51	58	65	71	80	88	95	102	
Soybeans	1	13								23	26	29	32	36	39	42	44	47	
Over 3000 seeds/lb	1	23								41	46	50	57	64	69	74	78	83	
Sudan Grass	1	13		5	6	8	10	12	13	15	17	18	20	22					
	1	23		8	11	15	18	20	23	26	29	32	36	39					
	1	33		12	16	21	25	29	34	38	42	46	51	56					
Sunflower	2 or 3	13						0	0	8	10	11	13	14	16	17	18	19	
Wheat	1	13				11	14	18	20	23	26	29	32	35	37	39	42	45	
	1	23				20	26	31	36	41	46	50	56	61	65	69	74	80	
Trifcale	1	13				11	13	16	19	19	21	24	26	29	32	34	37	39	
	1	23				19	24	28	34	34	38	42	47	51	56	60	65	69	
Cotton (Delin.)	1																		
4400 seeds/lb	1	13								37		44		54		62		69	
Orchard Grass	1	13				2	2	3	4	4	5	5	6	6	7	8	9	9	
	1	23				4	4	5	7	7	9	10	11	11	12	14	15	16	
	1	33				9	11	13	17	19	22	24	28	29	32	35	39	41	
Brome Grass	1	13				2	2	2	3	4	5	5	5	6	6	7	7	8	
	1	23				3	4	4	5	7	8	9	10	10	11	12	13	14	
Amaranth	1	13	3	7	10	14	17	21											
Millet	1	13			10	12	14	17	19	21									
Rape	1	13		6	8	10	11												
Switch Grass	1	13		7	10	13	14	17	19	21	23	25							
Kenland Red	1	13	5	7	10	12	14	16	19	20	23	25	27						
Navy Beans	4	13							28	37	45	52	55	61	64	74	79	85	
Annual Rye	1	13				2	3	5	7	8	9	11	11	12	13				
	1	23				3	5	9	12	14	16	19	19	22	24				
Crimson	1	23			6	9	11	14	19	20	22	25							
Chufa (small seed size)	3	13						16	19	22	26	30	32	34	36	38	40	42	
	3	23						29	34	39	46	53	56	60	63	67	70	74	
Iron Clay Peas	2	13				18	20	22	25	28	31	34	37	40	44	48	49	51	
	2	23				32	35	39	44	49	54	60	65	70	77	84	87	89	
Corn - Med. Rounds 1700 seeds/lb.	2	13			17	20	24	27	30	33	39	44	47	50	57	64	65	67	

METER GATE SETTING



Seed Charts are provided for a starting point only, always calibrate drill for exact rates.

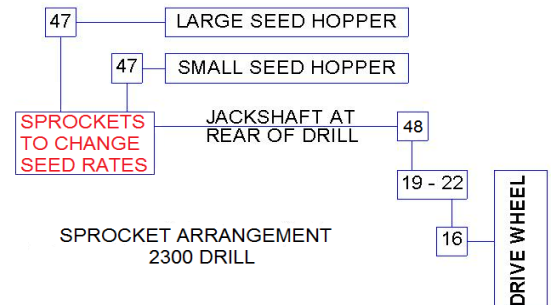
Small Seed Hopper - 2300 Drill
Row Spacing: 7 1/2"

Seed	Type	Seed Rate	Sprocket Size	Meter Opening - as Indicated on Drill															
				1/16"	1/8"	3/16"	1/4"	5/16"	3/8"	7/16"	1/2"	9/16"	5/8"	11/16"	3/4"	13/16"	7/8"	15/16"	1"
Alfalfa	Low	13			1	1	2	2	3	4	4	5	5	6	7	7	8	9	10
	High	23			1	2	3	4	5	6	7	8	9	11	12	13	15	16	17
Alfalfa Coated	Low	13			1	1	2	3	4	4	5	6	7	7	8	9	10	10	
	High	23			1	3	4	5	6	7	8	10	12	12	13	14	16	17	18
Bahia Grass	Low	13	0	1	1	1	1	2	2	3	4	4	4	5	5	6	6	7	7
	High	23	1	1	2	2	2	3	4	5	6	7	7	8	9	10	11	12	13
Bentgrass	Low	13	0	1	1	1	1	1	1	2	2	2	2	2	3	3	3	3	3
	High	23	1	1	1	2	2	2	3	3	3	4	4	4	5	5	5	6	6
Bermuda Grass	Low	13		1	1	2	3	4	4	5	5	6	7	8	8	9	10	10	
	High	23		1	3	4	5	6	7	8	9	11	12	12	14	15	16	17	18
Canola	Low	13		0	1	2	2	3	3	4	4	5	6	6	7	7	8	8	
	High	23		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Centipede	Low	13		1	1	2	3	4	4	5	5	6	7	7	8	8	9	10	
	High	23		1	2	3	5	6	7	8	9	11	12	12	13	14	15	16	17
Alsike Clover	Low	13		1	1	2	3	3	4	4	5	6	7	7	8	8	9	9	
	High	23		1	2	3	5	6	7	8	9	10	12	12	13	14	15	16	17
Red Clover	Low	13		1	2	2	3	4	4	5	6	7	7	8	9	9	10	11	
	High	23		2	3	4	5	6	8	9	10	12	13	14	15	17	18	19	
Love Grass	Low	13	1	1	2	2	3	4	4	5	5	6	6	7	7	8	8	8	
	High	23	1	2	3	4	5	6	7	8	9	11	11	12	13	14	14	15	
Lespedeza	Low	13	0	1	1	1	1	2	2	2	3	3	3	4	4	4	4	5	
	High	23	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	
Lespedeza Unhulled	Low	13		1	1	2	3	4	4	5	6	7	8	9	10	11	12	13	
	High	23		1	3	4	5	6	8	9	11	13	14	16	17	19	21	22	
Millet	Low	13		1	1	2	2	2	3	4	4	5	5	5	6	7	7	7	
	High	23		1	2	3	4	4	5	6	7	8	9	9	11	12	12	13	
Annual Ryegrass	Low	13			1	1	1	2	2	2	3	3	4	4	4	5	5	5	
	High	23			1	1	2	3	4	4	5	6	6	7	8	8	9	10	
Perennial Ryegrass	Low	13			1	1	1	2	2	3	3	3	4	4	4	5	5	5	
	High	23			1	1	2	3	4	4	5	6	6	7	8	8	9	10	
*Sudan Grass	Low	13	0	1	2	2	3	4	5	5	6	7	7	8	9	10	10	11	
	High	23	1	2	3	4	6	7	8	9	11	12	13	14	16	17	18	20	
Tall Wheatgrass	Low	13						0	0	1	1	1	1	1	1	1	2	2	
	High	23						0	1	1	1	1	1	2	2	2	3	3	
Switchgrass	Low	13			1	2	2	2	3	4	5	5	6	6	7	8	9	10	
	High	23			2	3	4	4	6	7	8	9	10	11	12	14	15	17	
Kentucky Bluegrass	Low	13			1	1	1	1	1	2	2	2	2	3	3	4	4	4	
	High	23			1	1	2	2	3	3	3	4	4	5	5	6	6	7	
KY 31 Fescue	Low	13				1	1	1	1	1	2	2	2	2	2	3	3	3	
	High	23				1	1	2	2	3	3	3	3	4	4	4	5	5	
Rape Seed	Low	13		4	6	8	9	10	12	13	15	17	19	21	23	26	29	32	
	High	23		7	10	13	16	18	21	24	27	30	33	37	41	45	50	56	

Seeds that Will Not Feed

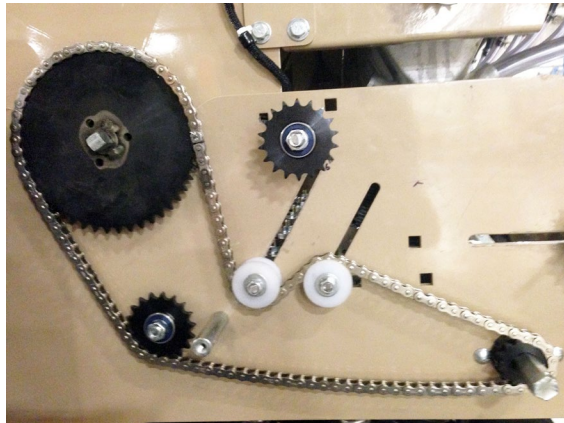
Bluestem, Large
 Bluestem, Little
 Bromegrass
 Creeping Red Fescue
 Indian Grass
 Needle Grass
 Orchard Grass

*Some varieties / sizes may crack seeds

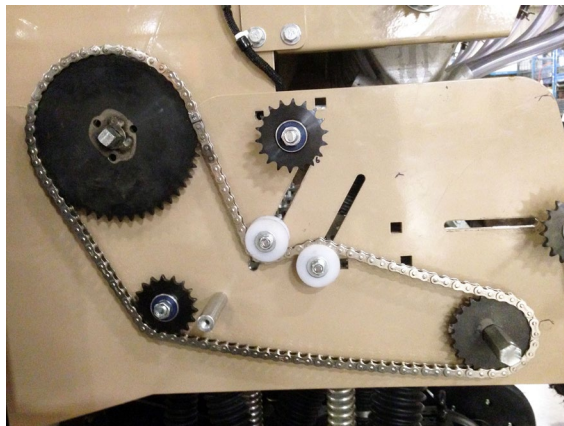


Seed Charts are provided for a starting point only, always calibrate drill for exact rates.

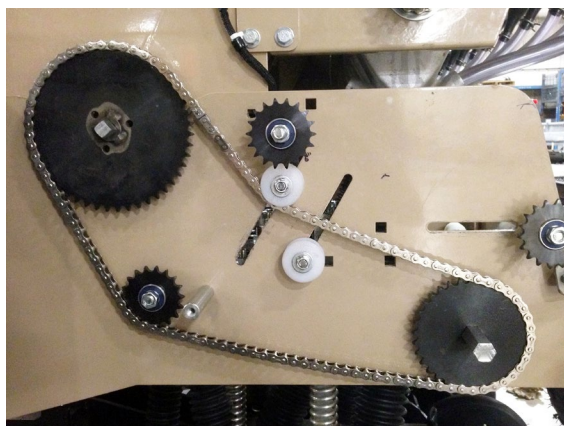
Sprocket Layout – Large Hopper with Native Grass Seed Hopper



Large Hopper – 13 Tooth on Jack Shaft – 47 Tooth on Meter

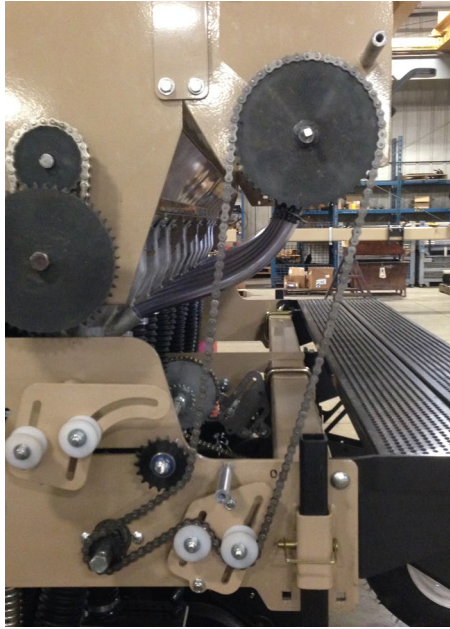


Large Hopper – 23 Tooth on Jack Shaft – 47 Tooth on Meter

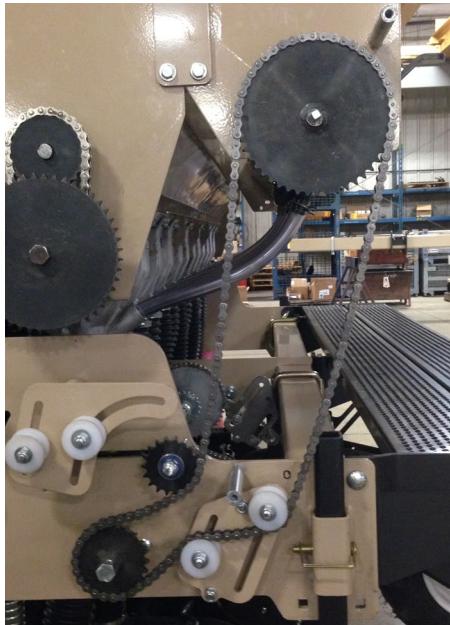


Large Hopper – 33 Tooth on Jack Shaft – 47 Tooth on Meter

Sprocket Layout – Small Seed Hopper with Native Grass Seed Hopper

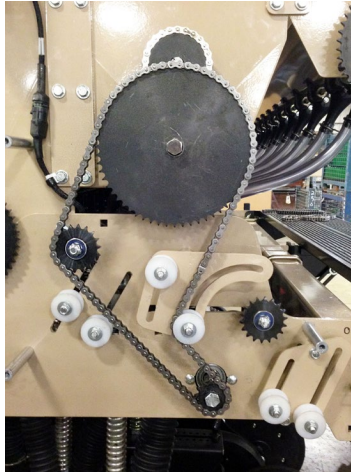


Small Seed Hopper – 13 Tooth on Jack Shaft – 47 Tooth on Meter

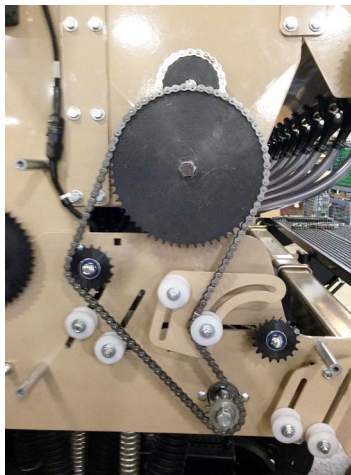


Small Seed Hopper – 23 Tooth on Jack Shaft – 47 Tooth on Meter

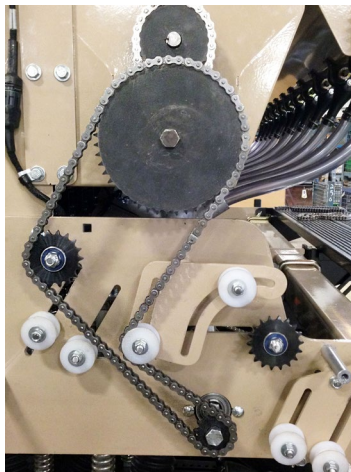
Sprocket Layout – Native Grass Seed Hopper



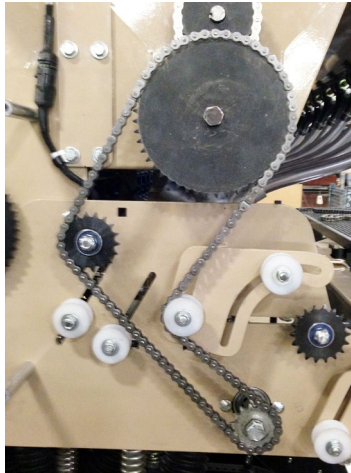
Native Grass Seed Hopper – **Setting #1** – 13 Tooth on Jack Shaft – 60 Tooth on Meter



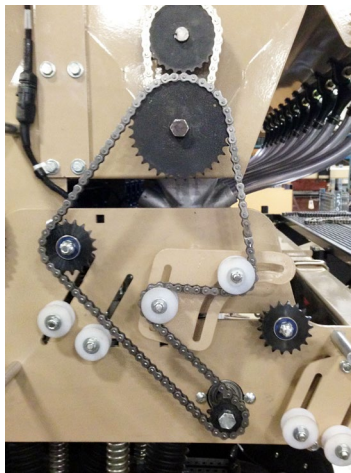
Native Grass Seed Hopper – **Setting #2** – 15 Tooth on Jack Shaft – 60 Tooth on Meter



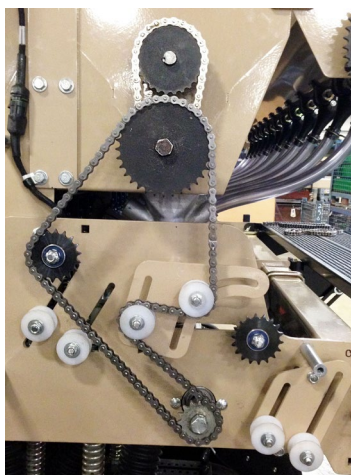
Native Grass Seed Hopper – **Setting #3** – 13 Tooth on Jack Shaft – 48 Tooth on Meter



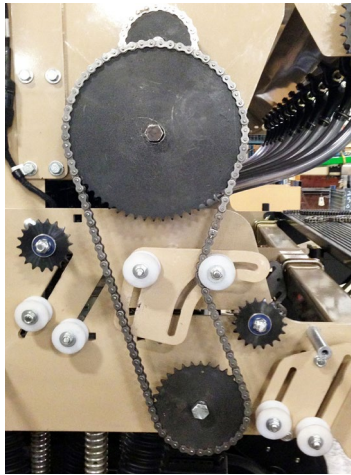
Native Grass Seed Hopper – **Setting #4** – 15 Tooth on Jack Shaft – 48 Tooth on Meter



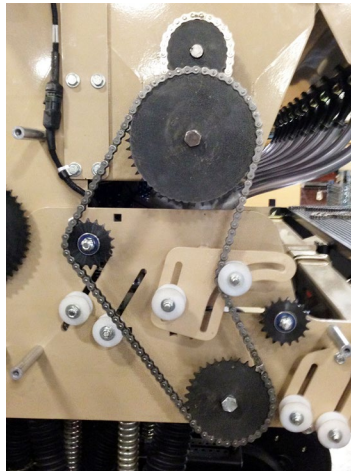
Native Grass Seed Hopper – **Setting #5** – 13 Tooth on Jack Shaft – 33 Tooth on Meter



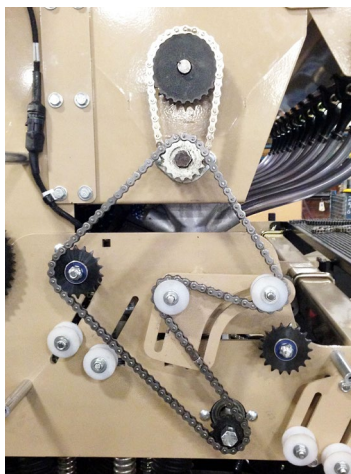
Native Grass Seed Hopper – **Setting #6** – 15 Tooth on Jack Shaft – 33 Tooth on Meter



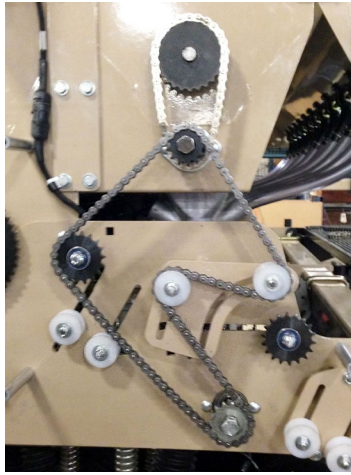
Native Grass Seed Hopper – **Setting #7** – 33 Tooth on Jack Shaft – 60 Tooth on Meter



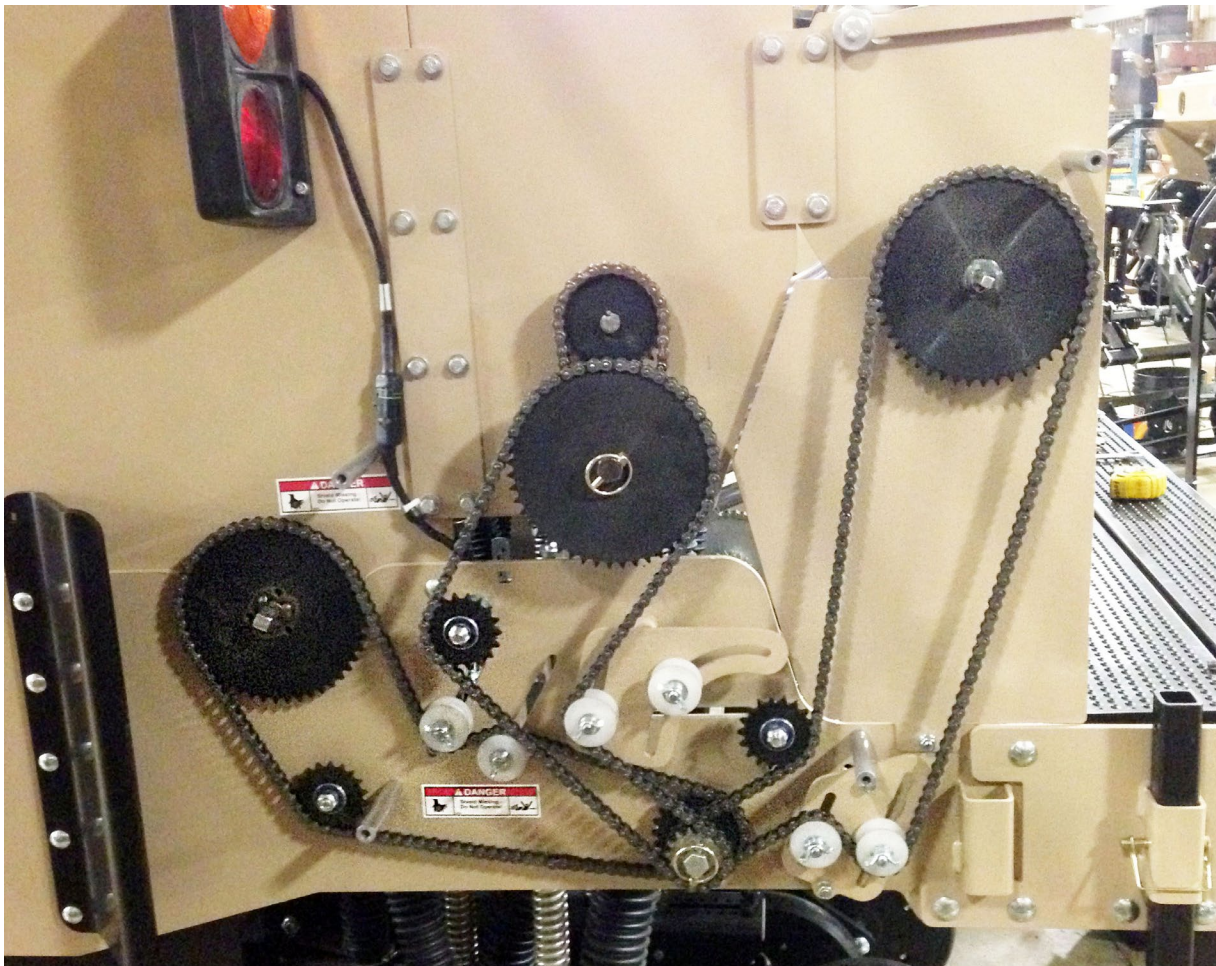
Native Grass Seed Hopper – **Setting #8** – 33 Tooth on Jack Shaft – 48 Tooth on Meter



Native Grass Seed Hopper – **Setting #9** – 13 Tooth on Jack Shaft – 15 Tooth on Meter

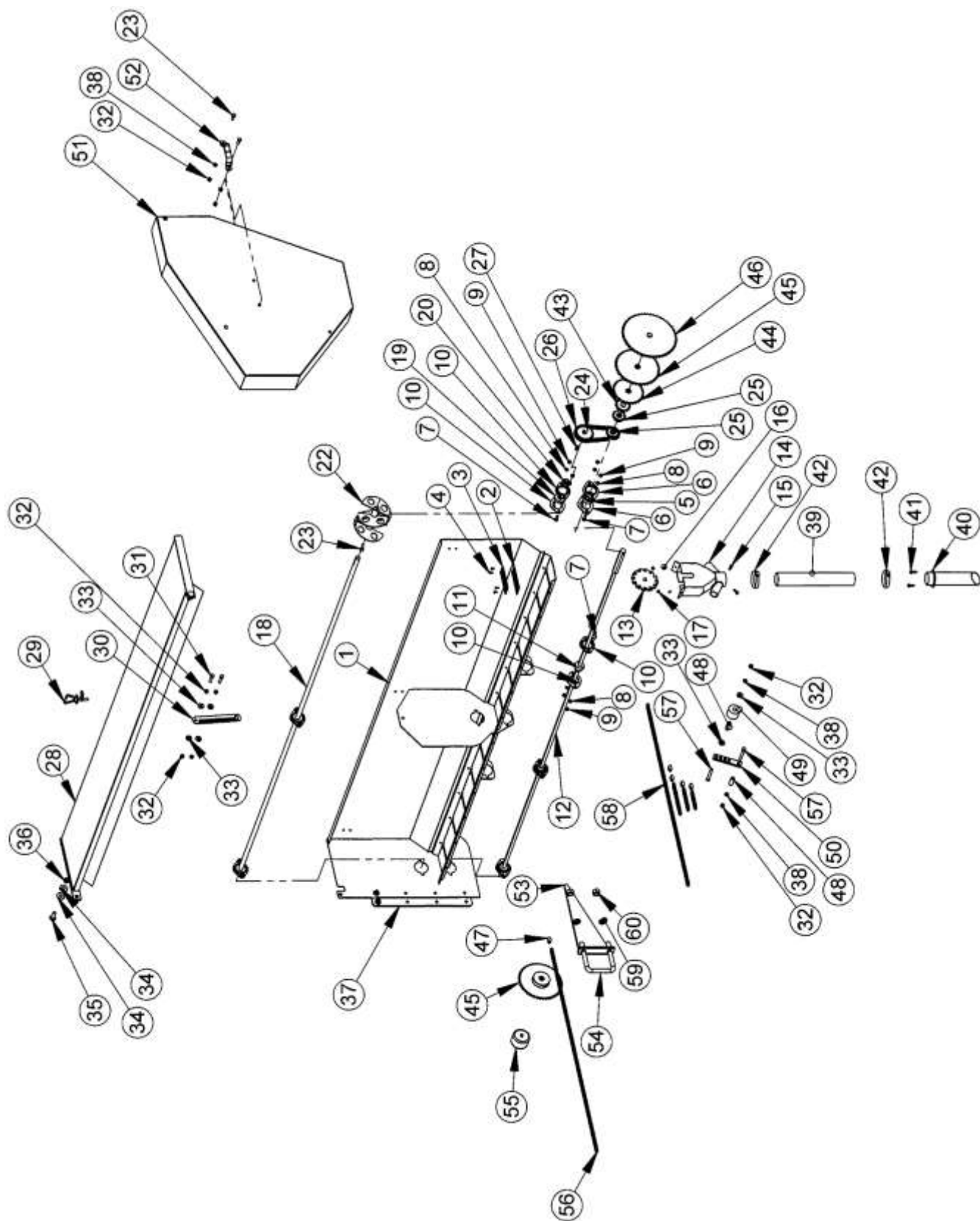


Native Grass Seed Hopper – **Setting #10** – 15 Tooth on Jack Shaft – 13 Tooth on Meter



Complete 3 Drive System.

Native Grass Seed Hopper Assembly Diagram – (Optional)



Native Grass Seed Hopper Assembly Description – (Optional)

Ref #	Description	7ft		10ft		15ft	
		Qty	Part #	Qty	Part #	Qty	Part #
1	Weldment, Hopper	1	RM-RR1585	1	RM-RR1369	2	RM-RR1585
2	Gasket, Rubber, NGS, Picker Wheel	12	RM-J8109	16	RM-J8109	24	RM-J8109
3	Rubber Seal Retain NGS	12	RM-RR1372	16	RM-RR1372	24	RM-RR1372
4	Rivet, Pop, 3/16 x 3.8, #66	48	RM-J1599	64	RM-J1599	96	RM-J1599
5	1" Center Bearing FH205-16 Lock Col	1	RM-J0005	1	RM-J0005	2	RM-J0005
6	Flangette, 2 Hole, 205 bearing	2	RM-J00985	2	RM-J00985	4	RM-J00985
7	5/16"-18 x 1" C. Bolt	14		16		28	
8	5/16" Lock Washer	14		16		28	
9	5/16"-18 Hex Nut	14		16		28	
10	Flangette, 2-hole, 204 bearing	12	RM-J0099	14	RM-J0099	24	RM-J0099
11	Bearing, 1/2 sq.3/4 Flangette	3	RM-J8108	4	RM-J8108	6	RM-J8108
12	Picker Wheel Shaft Weldment	1	RM-RR1585	1	RM-RR1373	2	RM-RR1585
13	Picker Wheel NGS	12	RM-J8112	16	RM-J8112	24	RM-J8112
14	Meter, MGS, Housing	12	RM-J8110	16	RM-J8110	24	RM-J8110
15	1/4"-20 x 3/4" HCS	24		32		48	
16	1/4" Lock Washer	24		32		48	
17	1/4"-20 Hex Nut	24		32		48	
18	Drive Shaft, Agitator	1	RM-RR1586	1	RM-RR1376	2	RM-RR1586
19	Bearing, Self-Aligning, 3/4"	3	RM-J00062	3	RM-J00062	3	RM-J00062
20	Collar, Locking, 3/4"	3	RM-J0053	3	RM-J0053	3	RM-J0053
21	5/16 Flat Washer	14		16		28	
22	Weldment, Agitator Assembly	12	RM-RR1377	16	RM-RR1377	24	RM-RR1377
23	3/8"-16 x 1" HCS	12		16		24	
24	40B Sprocket - 25 Tooth, 3/4" Key Bore	1	RM-J1638	1	RM-J1638	2	RM-J1638
25	Sprocket, 40B13, Hex Bore	2	RM-R6590	2	RM-R6590	3	RM-R6590
26	#40 Chain - 39 Links	1	RM-R124191	1	RM-R624191	1	RM-R624191
27	1/4" x 1" Key	1	RM-E5915	1	RM-E5915	2	RM-E5915
28	Weldment, Hopper Lid	1	RM-RR1583	1	RM-RR1370	2	RM-RR1583
30	Slide Latch	1	RM-R6694	1	RM-R6694	2	RM-R6694
31	3/8"-16 x 1 1/2" HCS	2		2		4	
32	3/8"-16 Hex Nut	24		32		48	
33	3/8" Flat Washer	22		32		48	
34	1/2" Flat Washer	4		4		8	
35	1/2"-13 x 1 1/2" C. Bolt	2		2		4	
36	1/2"-13 Lock Nut	2		2		4	
37	Bracket Mounting NGS	2	RM-RR1374	2	RM-RR1374	4	RM-RR1374
38	3/8" Lock Washer	20		20		40	
39	Seed Tube Native Grass	12	RM-J7366	16	RM-J7366	24	RM-J7366
40	Weldment Native Grass Tube	12	RM-RR1366	16	RM-RR1366	24	RM-RR1366
41	Screw, Self-Drill, 1/4 - 14, 1 PLT	24	RM-J0501	32	RM-J0501	48	RM-J0501
42	Clamp, Hose, 1-13/16 x 2-3/4"	24	RM-J2321	32	RM-J2321	48	RM-J2321
43	40B15 Sprocket - .890 Hex Bore	1	RM-J1648	1	RM-J1648	1	RM-J1648
44	Sprocket, 40B33, .895 Hex	1	RM-RR1493	1	RM-RR1493	1	RM-RR1493
45	Sprocket, 40B48, Hex Bore	2	RM-R6589	2	RM-R6589	2	RM-R6589
46	Sprocket, 40B60, .895" Hex	1	RM-RR1492	1	RM-RR1492	1	RM-RR1492
47	#40 Chain Link Connector	5	RM-J1745	5	RM-J1745	5	RM-J1745
48	Inner Bushing	2	RM-R6733	2	RM-R6733	2	RM-R6733
49	Plastic Roller	1	RM-R6732	1	RM-R6732	1	RM-R6732
50	Adjustment Strap, Coulter Spring	1	RM-R120285	1	RM-R120285	1	RM-R120285
51	Shield, NGS Hopper	1	RM-RR1384	1	RM-RR1384	1	RM-RR1384
53	Walk Board Support, rear wheel Left	3	RM-RR1494	3	RM-RR1494	4	RM-RR1494
54	3/4"-10 x 4" x 5 3/4" U-Bolt	3	RM-J07148	3	RM-J07148	4	RM-J07148
56	#40 Chain - 89 Links	1	RM-R6697	1	RM-R6697	1	RM-R6697
57	3/8"-16 x 2 3/4" HCS	2		2		2	
59	3/4" Lock Washer	6		6		8	
60	3/4"-10 Hex Nut	6		6		8	

Registration Form

2300 Grain Drill

Please Return With-in 30 Days of Purchase

Name: _____

Street Address: _____

City: _____ State: _____ Zip: _____

Email: _____

How did you hear about us:

☐ Social Media ☐ Google ☐ Farm Show ☐ Friend ☐ Ad ☐ Dealer

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Mail to: Remlinger Manufacturing Company, Inc.
16394 US 224
Kalida, OH 45853

Fax to: 1-419-532-2244

Email to: agsales@remlingermfg.com

Thank you for purchasing Remlinger Equipment!

Notes

Notes



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PO Box 299
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