



## Light Duty Mini-Till Seed Drill Operator's Manual



REV. 02/2020

# INTRODUCTION

Thank you for purchasing a BULLY light duty Mini-Till Seed Drill (MTSD). The MTSD has been designed for small land holders and hobby farms that intended to operator in well maintained fields as a no-till drill for seeding applications.

These seeders can seed corn, beans, oats, wheat, etc. The seeder is equipped with 2 separate boxes. The two boxes are equipment with closeable slides for each row. The seed boxes are made from stainless-steel while nylon/plastic seed rollers disperse seed effectively and accurately.

The information contained in this manual was current at the time of printing and has been compiled specially to assist you with the Implement that you have purchased. It is of the utmost importance that you read this manual, understand the context, and carry out a risk assessment before operating the implement.

Consumers are advised that your warranty may be considered void if any damage to the implement is caused by operator abuse, neglect, or if any unauthorised modifications have been made.

Farm Implements P/L and its Distributors/Dealers are not responsible for any transportation cost incurred in the repair or replacement of parts in either a successful or non-successful warranty claim and we wish to advise that consumers who wish to lodge a claim MUST follow the procedures set out in our Warranty Registration and Installation Form which complies with 'Australian Consumer Law' and Schedule 2 of the Competition and Consumer Act 2010 (Cth).

Please be aware that to bring you better implements we are always implementing continuous improvements that may change the designs and specifications of the Implement. In doing this, Farm Implements P/L together with its Dealers and Distributors are under no obligation to implement these changes, free of charge, on any previously delivered Implement.

## **TO THE DEALER**

Assembly and proper installation of this product is the responsibility of the reseller/dealer. The onus is also in the dealer to complete the Warranty Registration & Installation Form in conjunction with the customer before releasing the implement to them.

Both dealer and customer must sign the registration form, which certifies that all Dealer Checklist items has been completed and then returns a copy of the Warranty Registration & Installation Form to Farm Implements P/L. Reminders about Warranty Registration that have not been returned will be sent out to demonstrate that reasonable attempts have been made to ensure dealers complete risk assessment and pre-delivery obligations.

## **TO THE OWNER**

Read this manual before operating your implement. The information presented will prepare you to do a much better and safer job. Keep this manual handy as a reference.

Ensure you carry out and keep up to date a Risk Assessment and that all operators read the manual carefully and become acquainted with the adjustments and operating procedures before attempting to operate.

Keep a record of the risk assessment and that the operator has read and understands the correct operating procedures as outlined in this manual.

The implement you have purchased has been carefully engineered and manufactured to provide dependable and satisfactory use.

Like all mechanical products, it will require a routine cleaning, upkeep, and maintenance. Lubricate the implement as specified. Observe all safety information in this manual and safety decals on the implement.

DO NOT REMOVE the safety guards and shields that came with your implement.

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## TECHNICAL SPECIFICATIONS

- Suitable for drilling and fertilizing corn, beans, oats, etc. in level or gently rolling fields.
- Spring load coulters to increase seed/ground contact.
- The double disc coulters create an opening to fertilize and seed easily in tilled soil.
- The depth of seeding can be adjusted. Seeding quantity can be adjusted.
- The seeder can plant seeds, fertilize, roll, and drag all at the same time.

Code	CBNTD140	CBNTD198
Size reference	1.4m   55"   7 row	1.98m   78"   10 row
Overall width (mm)	1700	2300
Working width (mm)	1400	1980
Depth (mm)	2150	
Height (mm)	1300	
Dry weight (kg).	470	640
Loaded weight (kg).	650	910
Working depth (mm)	20 - 50	
# seed cups	7	10
Seed box capacity (lbs)	100	150
# fertiliser cups	7	10
Fertiliser box capacity (lbs)	80	120
# of coulters	7	10
∅ coulter (mm)	400	
Type of coulter	Spring loaded	
Type of coulter disc	13 Wave	
Coulter disc 'wave' (mm)	20	
# opening discs	7	10
Type of opening disc	Spring loaded double disc with cast iron hubs	
Opening disc spacing (mm)	190	
Tractor horsepower (hp)	35° - 90	45° - 90
Tractor hitch	Cat 1 & 2	

° dealers need to check tractor/implement stability on tractors at the lower end of the horsepower range

# SAFETY

It is important that you read the entire manual and to become familiar with this implement before you commence operations.

This product is designed for certain applications only.

Any use of the implement other than the intended use is non-intended use and is to be considered as unauthorized and dangerous. The manufacturer assumes no liability for damage resulting from unintended use.

The manufacturer cannot be responsible for issues arising from modification. Modification can void your warranty. We strongly recommend this product not be modified and/or used for any application other than that for which it was designed.

If you have any questions relative to a particular application, DO NOT use the product until you have first contacted us to determine if it can or should be performed on the product.



## SAFETY SIGNAL WORDS

**TAKE NOTE! THIS SAFETY ALERT SYMBOL FOUND THROUGHOUT THIS MANUAL IS USED TO CALL YOUR ATTENTION TO INSTRUCTIONS INVOLVING YOUR PERSONAL SAFETY AND THE SAFETY OF OTHERS.**

**FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN INJURY OR DEATH.**

**THIS SYMBOL**



**MEANS ATTENTION!  
BECOME ALERT!  
YOUR SAFETY IS INVOLVED!**

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



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



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



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



## GENERAL SAFETY GUIDELINES

Safety is a primary concern in the design and manufacturing of our products. Unfortunately, our efforts to provide safe equipment can be wiped out by a single careless act of an operator.

In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of equipment.

It has been said, "***The best safety device is an informed, careful operator***" We ask you to be that kind of operator.

To avoid personal injury, study the following precautions and insist those working with you, or for you, follow them.

Replace any CAUTION, WARNING, DANGER or instruction safety decal that is not readable, damaged or missing. Location of decals are indicated in this manual.

Review the safety instructions with all users annually.

This equipment is dangerous to children and persons unfamiliar with its operation. The operator should be a responsible adult familiar with farm machinery and trained in this equipment's operations.

**Do not allow persons to operate or assemble this unit until they have read this manual and have developed a thorough understanding of the safety precautions and of how it works.**

To prevent injury or death, use a tractor equipped with a Roll Over Protective System (ROPS).

Do not paint over, remove, or deface any safety signs or warning decals on your equipment. Observe all safety signs and practice the instructions on them.

Never exceed the limits of a piece of machinery



## SAFETY DECAL CARE

Keep safety signs clean and legible at all times.

Replace safety signs that are missing or have become illegible.

Replaced parts that displayed a safety sign should also display the current sign.

Safety signs are available from your Distributor or Dealer Parts Department or the factory.

### **How to Install Safety Signs:**

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



## **BEFORE OPERATION**

Customers **MUST** carry out a Risk Assessment and/or “HazCheck” on every implement on their property.

Safety instructions are important! Read all attachments and unit manuals; follow all safety rules and safety decal information. Failure to follow instructions can result in serious injury or death.

If you do not understand any part of this manual and need assistance the Department of Agriculture, Occupational Health & Safety Offices, any Agricultural School or college and your local dealer should be able to direct you on where you can receive appropriate training. No operator however experienced in farm machinery operation they may be, should attempt to use any piece of machinery that they have not been competently trained to use.

Know your controls and how to stop quickly in an emergency.

Operators must be instructed in and be capable of the safe operation of the equipment and all controls. Do not allow anyone to operate this equipment without proper instruction.

Do not allow children or untrained persons to operate equipment.

Check that all hardware (nuts, bolts, etc.) are tight and properly installed.

Always wear relatively tight fitted clothing to avoid entanglement in moving parts. Wear heavy-duty, rough-soled boots and protective equipment for eyes, hair, hands, hearing and head.

Ensure implement is properly attached, adjusted and in good condition so that it can be operated safely.

Tractors **MUST** be fitted with Roll Over Protection Structure (ROBS) or ROBS Cap. It is also advisable that your tractor is fitted with a seatbelt. Where fitted it must be always worn. Falling from your tractor can result in death from being run over or crushed. If your tractor is fitted with a folding ROBS, keep it in the “locked up” position at all times.

Inspect chains, bearings and any wear parts for damage. Replace if damaged.

Remove any debris that has accumulated on the implement, tractor or engine to avoid fire hazard.

Ensure your tractor has a fire extinguisher and ensure you know how to use the extinguisher in the event of an emergency.

Ensure all safety decals are in place. Replace if damaged.

Ensure shields and guards are properly installed and in good working condition. Replace if damaged.

A minimum 20% of tractor and equipment weight must be on the tractor’s front wheels with the implement in the transport position. Without this weight, tractor could tip over causing personal injury or death. The weight may be attained with a loader, front wheel weights, and ballast in the tyres or front tractor weights. When attaining the minimum 20% weight on the front wheels, you must not exceed the ROPS max ballasted mass certificate. Weigh the tractor and implement. Do not estimate.

Watch for hidden hazards on the terrain during operation and avoid any hazards or objects that could cause injury or damage.

Inspect operating areas and remove any foreign objects that could be thrown or jammed in the implement, causing injury or damage. It is very important to always watch for foreign objects when you are operating and avoid them as they can cause injury or damage.

When working in populated areas always place signs in the area to alert people or vehicles that may pass.

Keep all people and animals away from the implement during startup, operating and when stopping.

Do not operate the implement or tractor while under the influence of drugs or alcohol.

Operate only in daylight or good artificial light.

Keep hands, feet, hair, and clothing away from moving parts while engine is running.

Do not carry persons or objects on the Implement or tractor during work or while in transit.

For transportation on public roads the operator must ensure that the tractor and implement comply with current State and Federal laws and must strictly adhere to all road traffic regulations in force in your state or territory.

Always operate equipment from the seat of the tractor with the seat belt securely fastened, especially when operating controls or starting engine. Place transmission in neutral, engage break and ensure all other controls are disengaged before starting tractor engine.

NEVER operator in reverse!

Do not operate on steep slopes. If in doubt set rear axles wider for moderate slopes.

Do not stop, start, or change directions suddenly on slopes', working up and down is preferred.

Use extreme care and reduce ground speed on slopes and rough terrain.

Stop tractor immediately upon striking an obstruction. Turn off engine, remove key, inspect, and repair any damage before resuming operations. Always block implement (using rated stands/jack) when inspecting.

Before dismounting tractor or performing any service or maintenance, disengage power to implement, lower the 3-point linkage and any other raised components (i.e. loader bucket) to the ground. Operate valve levers to release any hydraulic pressure, stop engine, set parking brake, remove the key and unfasten seat belt.

Never place any part of the body underneath the implement or between moveable parts even when engine has been turned off. Hydraulic systems can "creep" (i.e. slowly lower). They may fail, or movement of the control levers can cause the implement to drop or rotate unexpectedly causing severe injury or death. Follow Operator's Manual instructions for working on your implement or have servicing carried out by a qualified dealer.

During routine checks and/or repairs ensure that no one can switch on the tractor or Implement accidentally. Keep the key to the tractor in your pocket.

For your own safety and that of others and to avoid forfeiting your warranty, use only original spare parts.

Do not modify/alter or permit anyone else to modify/alter the implement or any of its components.

Ensure implement is properly attached, adjusted and in good operating condition.



Frequently check disc. They should be sharp, free of nicks and cracks and securely fastened.

Do not handle discs with bare hands. Careless or improper handling may result in serious injury.

Always use genuine discs. Your dealer can supply you with genuine replacements.

Firmly tighten all nuts/bolts/screws/shackles before operating. If worn or damaged, replace immediately.

Block implements securely for storage.

Keep children and bystanders away from storage area.

FARM IMPLEMENTS accepts no responsibility or liability for any losses, injuries or damages that may result from failing to observe these safety rules and the safety decals on the implements.

## BEFORE USE

Don't hurry through the learning process or take the unit for granted. Ease into it and become familiar with your new equipment.

Practice operation of your equipment and its attachments. Completely familiarize yourself and other operators with its operation before using.

Use a tractor equipped with a Roll Over Protective System (ROPS) and fasten your seat belt prior to starting the engine.

The manufacturer does not recommend usage of tractor with ROPS removed.

Move tractor wheels to the widest recommended settings to increase stability.

Securely attach to towing unit. Use a high strength, appropriately sized hitch pin with a mechanical retainer and attach safety chain.

Do not allow anyone to stand between the tongue or hitch and the towing vehicle when backing up to the equipment.



## DURING OPERATION

Children should not be allowed on the product.

Clear the area of small children and bystanders before moving the seeder.

Shift into a lower gear before going up or down steeper slopes, using the engine as a retarding force.

Slow down for corners and rough terrain.

Make sure you comply with all local and state regulations regarding transporting equipment on public roads and highways. Lights and signs must be clean and visible by overtaking or oncoming traffic when feeder is transported.

Beware of bystanders, **particularly children!** Always look around to make sure that it is safe to start the engine of the towing vehicle or move the unit. This is particularly important with higher noise levels and quiet cabs, as you may not hear people shouting.

**NO PASSENGERS ALLOWED** - Do not carry passengers anywhere on, or in, the tractor or equipment, except as required for operation.

Keep hands and clothing clear of moving parts.

Do not clean, lubricate, or adjust your equipment while it is moving.

When halting operation, even periodically, set the tractor or towing vehicle brakes, disengage the PTO, shut off the engine and **remove the ignition key**.

Be especially observant of the operating area and terrain - watch for holes, rocks or other hidden hazards. Always inspect the area prior to operation.

**DO NOT** operate near the edge of drop-offs or banks.

**DO NOT** operate on steep slopes as overturn may result.

Operate up and down (not across) intermediate slopes. Avoid sudden starts and stops.



## **TRANSPORT OPERATIONS**

Adopt safe driving practices:

Always drive at a safe speed relative to local conditions and ensure that your speed is low enough for an emergency stop to be safe and secure. Keep speed to a minimum.

Reduce speed prior to turns to avoid the risk of overturning.

Avoid sudden uphill turns on steep slopes.

Always keep the tractor or towing vehicle in gear to provide engine braking when going downhill. Do not coast.

Do not drink and drive!

Comply with state and local laws governing highway safety and movement of farm machinery on public roads.

Use approved accessory lighting flags and necessary warning devices to protect operators of other vehicles on the highway during daylight and nighttime transport. Various safety lights and devices are available from your dealer.

The use of flashing amber lights is acceptable in most localities. However, some localities prohibit their use. Local laws should be checked for all highway lighting and marking requirements.

When driving the tractor and equipment on the road or highway under 40 kph (20 mph) at night or during the day, use flashing amber warning lights and a slow moving vehicle (SMV) identification emblem.

Plan your route to avoid heavy traffic.

Be a safe and courteous driver. Always yield to oncoming traffic in all situations, including narrow bridges, intersections, etc.

Be observant of bridge loading ratings. Do not cross bridges rated lower than the gross weight as which you are operating.

Watch for obstructions overhead and to the side while transporting.

Always operate equipment in a position to provide maximum visibility at all times.

Make allowances for increased length and weight of the equipment when making turns, stopping the unit, etc.

Pick the most level route when transporting across fields. Avoid the edges of ditches or gullies and steep hillsides.

Be extra careful when working on inclines.

Maneuver the tractor or towing vehicle at safe speeds.

Avoid overhead wires or other obstacles. Contact with overhead lines could cause serious injury or death.

Avoid loose fill, rocks and holes; they can be dangerous for equipment operation or movement.

Allow for unit length when making turns.

Operate the towing vehicle from the operator's seat only.

Never stand alongside of unit with engine running or attempt to start engine and/or operate machine while standing alongside of unit.

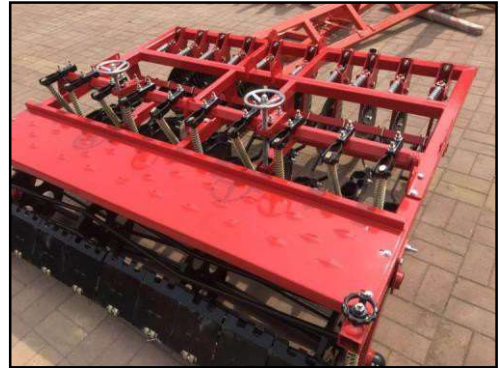
Never leave running equipment attachments unattended.

As a precaution, always recheck the hardware on equipment following every 100 hours of operation. Correct all problems. Follow the maintenance safety procedures.

# ASSEMBLY

## Step 1:

Carefully uncrate and remove all parts.  
Ensure the double disc openers and coulters are  
inline and set at their proper 7 1/2" spacing



## Step 2:

Mount hopper box with the lid opening towards  
the front. DO NOT TIGHTEN BOLTS AT THIS  
STEP



## Step 3:

Install Short Sprocket shaft, sprocket and chain. (The  
11 toothed sprocket goes on the left and 12 toothed  
on the right..)



## Step 4:

Lightly push seed box forward to tighten the chain.  
Use allen wrench to tighten the drive sprocket after  
ensuring the chain is straight. Tighten bolts left loose  
in Step 2.  
Install chain shields

**Step 5:**

Install seed cup bottoms and hoses to cups (23" in back - 28" in front)



Use electrical tape (not provided) to secure the tubes to the seed cups or hose clamps.



Step 6: Install A frame on inside of mounts

Install lower hitch blocks



Step 7: Move Handle Knob to outside

Step 8: Rotate Scraper down

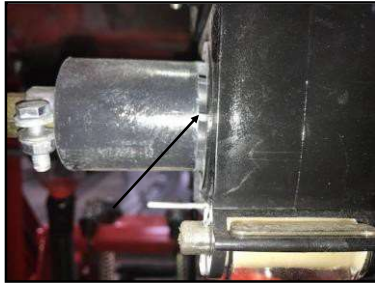




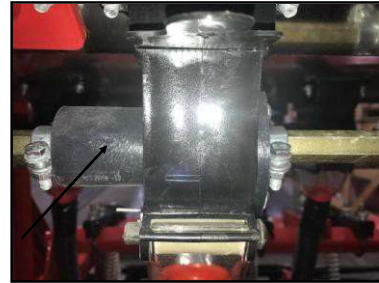
# OPERATING INSTRUCTIONS

## BEFORE BEGINNING WORK

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



**NOT FLUSH - GEARS PROTRUDING**

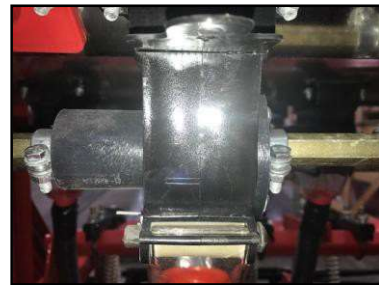


**FLUSH - GEARS NOT PROTRUDING**

- Adjust the clamps to ensure all cups close and open completely and uniformly.

## TO ADJUST SEED OUTPUT

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



LEGUME SEED CUP

LARGE SEED CUP

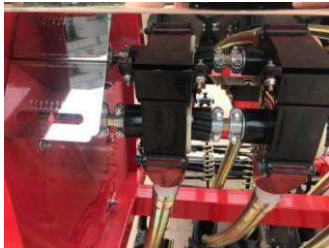


The LARGE SEED front section is usually driven with an 11-26 Gear ratio, while the back LEGUME SEED section is being reduced to put out less with a 12-40 Gear Ratio.



## SEEDING/FERTILIZING RATE ADJUSTMENT HANDLE

To adjust the fertilizer rate, you will need to adjust hand wheels (on each side of hopper). The seed/fertilize rate depends on the seed/fertilizer you want to plant, please refer to your seed/ fertilizer supplier's chart to get the proper seed/fertilize rate.



**LOCKING NUT**

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



### **Important**

Tighten locking nut on handle assembly before operating

Weight, size, relative humidity, and moisture content can affect seeding rates. Users can adjust the position of the seed/fertilizer TONGUE and lock in different positions by moving the cotter pin to meet the different seeding/fertilizing size.

The smaller the seed, the higher up the TONGUE should be positioned. For larger seed, the TONGUE should be opened more.

### **Positioning Holes**

### **Tongue and positioning Holes**





## SEED CUP SHUTOFF

Depending on the crop being planted, it may be necessary to not disburse from all of the seed cups. This is easily done by simply sliding the SEED SHUT OFF FLAP in



and out.

**CLOSED**

**OPEN**



**CLOSED**

**OPEN**

## SEED DEPTH - REAR ROLLER

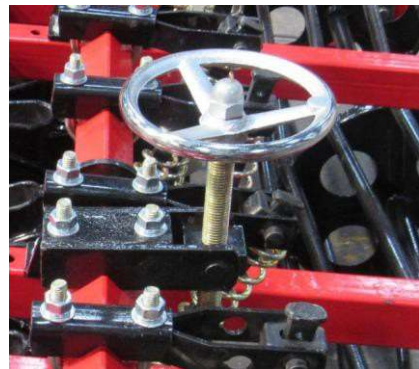
The depth in which the application is done is controlled by adjusting the basket located near the rear of the machine. Adjusting the Sowing Depth Control Device as follows:

Turning knob clockwise will make the basket drop which in turn will raise the disc openers and lessen the depth of the application. Turning knob counterclockwise would raise the basket which would lower the disc openers and make the application deeper.



## SEED DEPTH - TORSION BAR

Turning the Torsion Bar wheel will increase spring tension on the individual discs to apply additional pressure.



## SEED DEPTH - DISC SUPPORT BAR

Additional pressure can be added by moving the curved clip into another hole on the Disc support Bar.

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

The machine is totally ground driven so proceed with a speed that is most comfortable and safe for existing conditions. Be sure to stop forward motion before lifting machine off ground. This practice will stop rollers from 'free spinning' and therefore eliminate the unwanted application when turning around.

Never operate the machine in reverse.

## **ADDITIONAL WEIGHT PLATFORM**



**IMPORTANT:** The machine comes equipped with additional weight platforms to help penetrate harder soils. **DO NOT OVERLOAD.**

## **LUBRICATION AND MAINTENANCE**

**IMPORTANT:** It is important to thoroughly clean the seeder after use. Failure to do so, can cause irreparable damage to the seed cups and drive system.

Grease and turn the Seed adjustment handle to ensure grease lubricates the threads.

There are a few ways to clean out the hoppers. Each hopper is equipped with a cleanout spout in the front of each hopper.

The rear hopper comes with a quick release lever located in the under the center of the hopper. By pulling down on the lever, all the hopper tongues will open up and cause the seed/ fertilizer to drop out of each of the seed cups.

Each seed cup can be emptied individually by pulling the cotter pin on the side of the cup and dropping down the "tongue".

- 1 Hour** Check all fasteners and hardware including set screws in sprockets and bearing collars and retighten as necessary.
- 8 Hours** Grease bearings on roller and apply grease to torsion bar wheel mechanism.
- As needed:** Remove any crop residue, grasses, weeds, or debris wrapped around shafts discs or rollers. This can cause bearings to overheat and lead to premature failure.
- Always:** Protect machine from weather. **Never** leave fertilizer in hopper. Do not leave seed in hopper for more than 24 hours. Remove all fertilizer and seeds and thoroughly clean hoppers and lubricate all drive chains before storage.

### CHANGING DISC

When replacing the discs, it is extremely important to remember that one of the disc hub has a left-hand thread and the other a right-hand thread.

The threads can strip, if removed improperly.

Step 1: Remove Dust Cap

Step 2: Remove External Scraper Dust

Cap Step 3: Remove Hub Nuts

Step 4: Unscrew Hub from Disc support



#### Important

When replacing the discs, it is extremely important to remember that LEFT DISC HUB has REVERSE (LEFT HAND) THREADS.. The RIGHT DISC HUB has normal RIGHT HAND threads. If turned incorrectly, they can strip.



Left Side Hub turn Clockwise to loosen and turn Counter-Clockwise to tighten.

The Right side hub turn Counter-Clockwise to loosen and Clockwise to tighten.

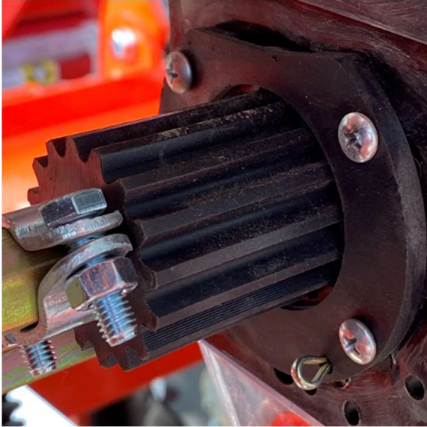
Step 5: Replace Discs and reassemble

# SEED CHART/CALIBRATION

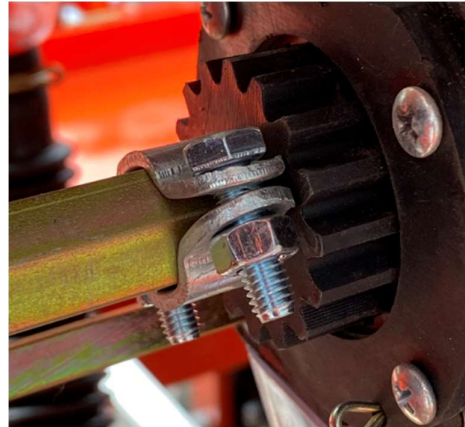
It should be noted that variations in size, type and density of the seed/granular fertiliser, in conjunction with the seed treatment, weather conditions and the amount of operator 'overlap' will affect the final application rate.

There are individual adjustment (winder) handles for each seed box. These winder handles control how much of the 'gear' is inside the seed cup. The more gear in the seed cup, the more seed/fertiliser being distributed.

Seed Cup gear out (minimal distribution).



Seed Cup gear engaged (greater distribution)



The adjustment handle for the front seed box (for larger seed and granular fertiliser) is on the right-hand side of the implement. To increase distribution, rotate the handle anti-clockwise. To decrease distribution, rotate the handle clockwise (see figure 1, below).

The adjustment handle for the rear seed box (for fine seeds and legumes) is on the left-hand side of the implement. To increase distribution, rotate the handle clockwise. To decrease distribution, rotate the handle anti-clockwise (see figure 2, below).

Figure 1. Front Seed Box adjustment direction(s)

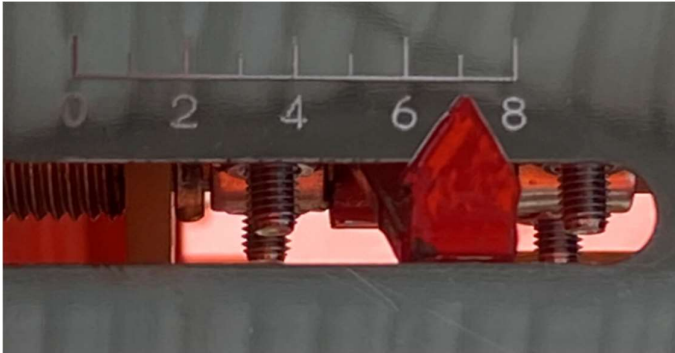


Figure 2. Rear Seed Box adjustment direction(s)



On both sides (one for each seed boxes) you will find a plate with a series of numbers. These numbers relate to the 'cup settings' in the sowing/seed chart.

In the image below the red arrow indicates 'cup setting' #7.



## SOWING/SEED CHART

Front Seed Box  
Large Seed Cup  
Gear Ratio 11-26  
kg/hectare

Cup Setting	1	2	3	4	5	6	7	8
<i>Rye</i>	-	80	106	132	165	200	-	-
<i>Fescue</i>	-	49	88	127	154	181	-	-
<i>Wheat</i>	-	117	163	210	254	299	-	-
<i>Corn</i>	-	85	173	262	325	388	-	-
<i>Fertiliser (granular)</i>	61	149	205	261	300	340	-	-

Rear Seed Box  
Fine Seed Cup  
Gear Ratio 12-40  
kg/hectare

Cup Setting	1	2	3	4	5	6	7	8
<i>Rye</i>	-	28	42	57	72	84	-	-
<i>Fescue</i>	-	24	37	50	64	76	-	-
<i>Wheat</i>	-	-	-	-	-	-	-	-
<i>Corn</i>	12	56	71	87	109	131	-	-
<i>Fertiliser (granular)</i>	-	-	-	-	-	-	-	-

The rates in the seed chart (below) are guidelines only. They have been designed as a starting point. Variations in size, type and density of the seed/granular fertiliser, in conjunction with the seed treatment, weather conditions and the amount of operator 'overlap' will affect the final application rate. If you are looking to distribute an exact amount of seed/fertiliser, then the process is a little bit more involved. The only accurate way to set a specific application rate is by calculating the distance travelled against the amount of product dispensed.



## Calibration Method

1. Capture the product (you intend to use) so it can be weighed.

NOTE: for this method to work, you MUST have a bag over EVERY Seed Cup, and you MUST capture ALL the material that would have been distributed so it can be weighed. You MUST also capture what is distributed from the FRONT/LARGE seed cups independently from the REAR/FINE seed cups. OR, you will need to run the calibration sequence (next page) twice. Once for the front seed cups and a second time for the rear seed cups.

To capture the material distributed from the seed cups you will need to remove the seed tubes at the seed cup (Figure 3 and 4) and secure a plastic bag to the seed cup. Alternatively, you may wish to remove the seed tube from the disc (Figure 5 and 6) and place a small container under the tube.

Figure 3. Seed tube/Seed Cup



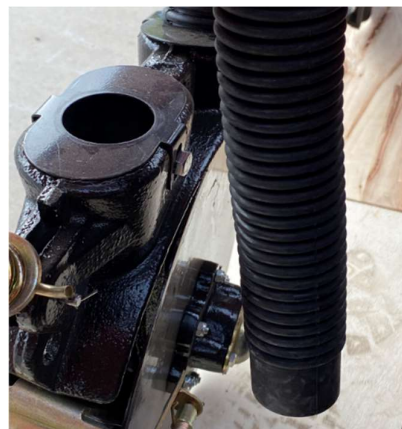
Figure 4. Seed Tube removed from Seed Cup ready for a plastic bag to be fitted to capture material



Figure 5. Seed tube/Disc opener



Figure 4. Seed Tube removed from Disc opener ready for plastic bag or container to capture material



2. Find a 'starting point' close to your desired rate.  
Using the 'Sowing/Seed Chart' as a reference, set the 'Cup Setting' for the product and rate closest to your desired rate then fill the hopper(s) with that product.

3. With one or both hopper(s) filled with some product and something to capture the material distributed from ALL the seed cups, then the Calibrations procedure is as follows:

- **Calibration CBNTSD140. 1.4m Mini-Till Seed Drill**

Fifty-five (55) rotations of the rear drive roller is equal to 100m<sup>2</sup>.

NT: To make counting rotations easier, put a piece of red tape on one or the roller bars.

Open the seed cup shut offs and rotate the roller fifty-five (55) times.

Once all rotations are complete, close the seed cup shut offs.

Collect all the material that was distributed and using a good quality set of electronic scales, weight the material.

To calculate the kilograms (kg's) per hectare, divide the total weight collected by ten (10).  
i.e. if, after fifty-five rotations of the roller, you had 250 grams, this would equal 25kg per hectare.

Depending on how close the kg/hectare were to your required rate, use the adjustment handle to increase or decrease and repeat the capture/weigh process.

In the case where you want to distribute a large quantity of product (i.e. granular fertiliser) the above process can be shortened to 5.5 rotations of the roller.

i.e. if, after five and half (5.5) rotations of the roller, you had 50 grams, this would equal 500kg per hectare.

Depending on how close the kg/hectare were to your required rate, use the adjustment handle to increase or decrease and repeat the capture/weigh process.

NT: reducing the rotations is not as accurate as the fifty-five (55) rotation method.

- **Calibration CBNTSD198. 1.98m Mini-Till Seed Drill**

Forty-one (41) rotations of the rear drive roller is equal to 100m<sup>2</sup>.

NT: To make counting rotations easy, put a piece of red tape on one or the roller bars. Open the seed cup shut offs and rotate the roller Forty-one (41) times.

Once all rotations are complete, close the seed cup shut offs.

Collect all the material that was distributed and using a good quality set of electronic scales, weight the material.

To calculate the kilograms (kg's) per hectare, divide the total weight by ten (10).

i.e. if you wanted thirty-five (35) kg/hectare, then after forty-one (41) rotations you would want the material distributed to weigh 350 grams.

If you got more or less than 350 grams, then use the adjustment handle to increase or decrease and repeat the capture/weigh process until you get a weight of 350 grams.

In the case where you want to distribute a large quantity of product (i.e. granular fertiliser) the above process can be shortened to 4.1 rotations of the roller

i.e. if, you wanted five-hundred (500) kg/Hectare, then after four-point-one (4.1) rotations of the roller, you would want the material distributed to weigh 50 grams).

Depending on how close the kg/hectare were to your required rate, use the adjustment handle to increase or decrease and repeat the capture/weigh process.

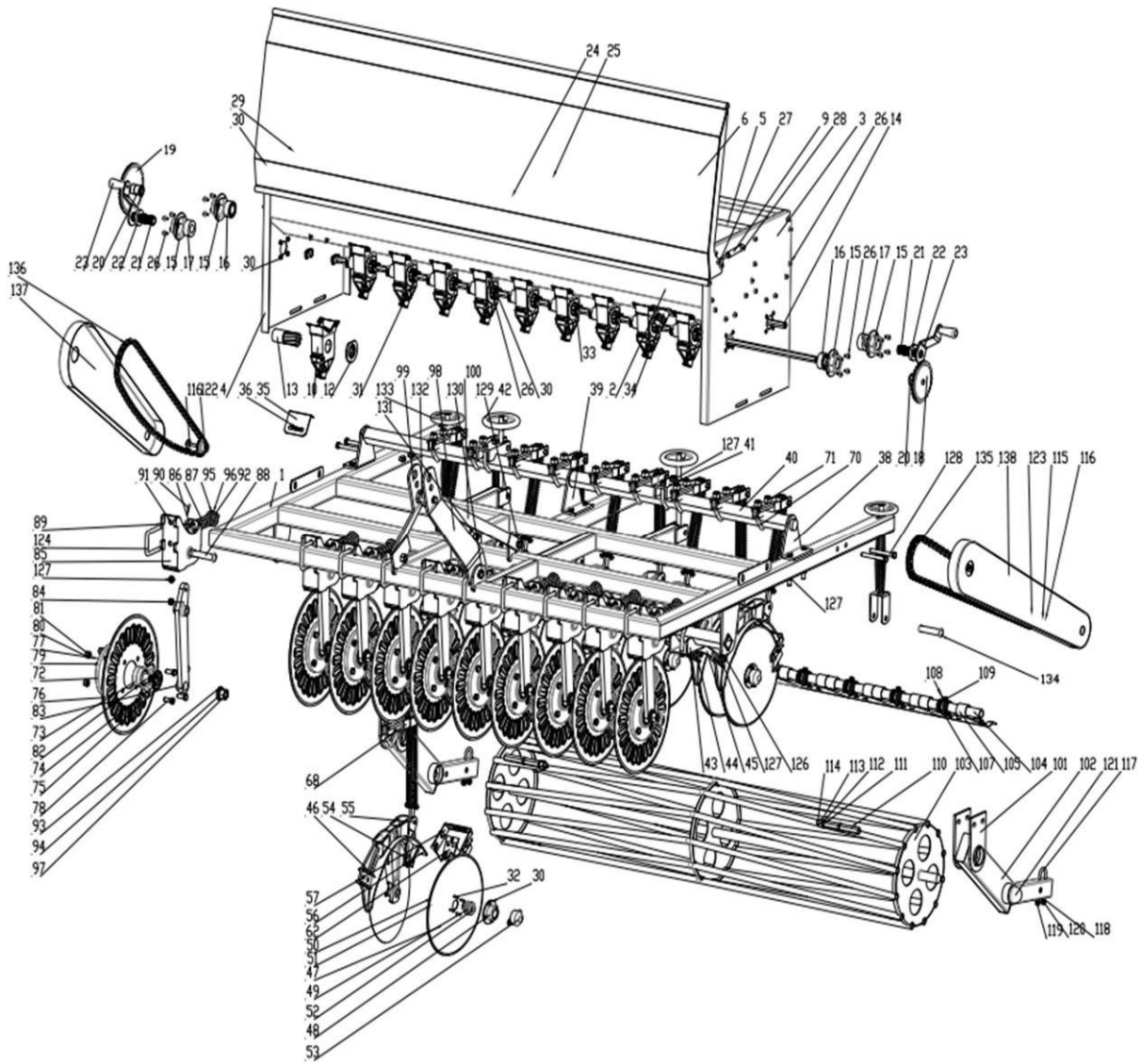
NT: reducing the rotations is not as accurate as the fifty-five (55) rotation method.

NOTE: The FRONT/LARGE seed cup 'gears' are larger and have a high ratio compared to the REAR/FINE seed cup 'gears'. Therefore, if you are trying to calibrate both the FRONT and REAR seed cups at the same time, you must keep the material distributed separate and weigh independently. Alternatively, you must carry out the calibration twice. Once for the FRONT and a second time for the REAR.

# Parts Breakdown



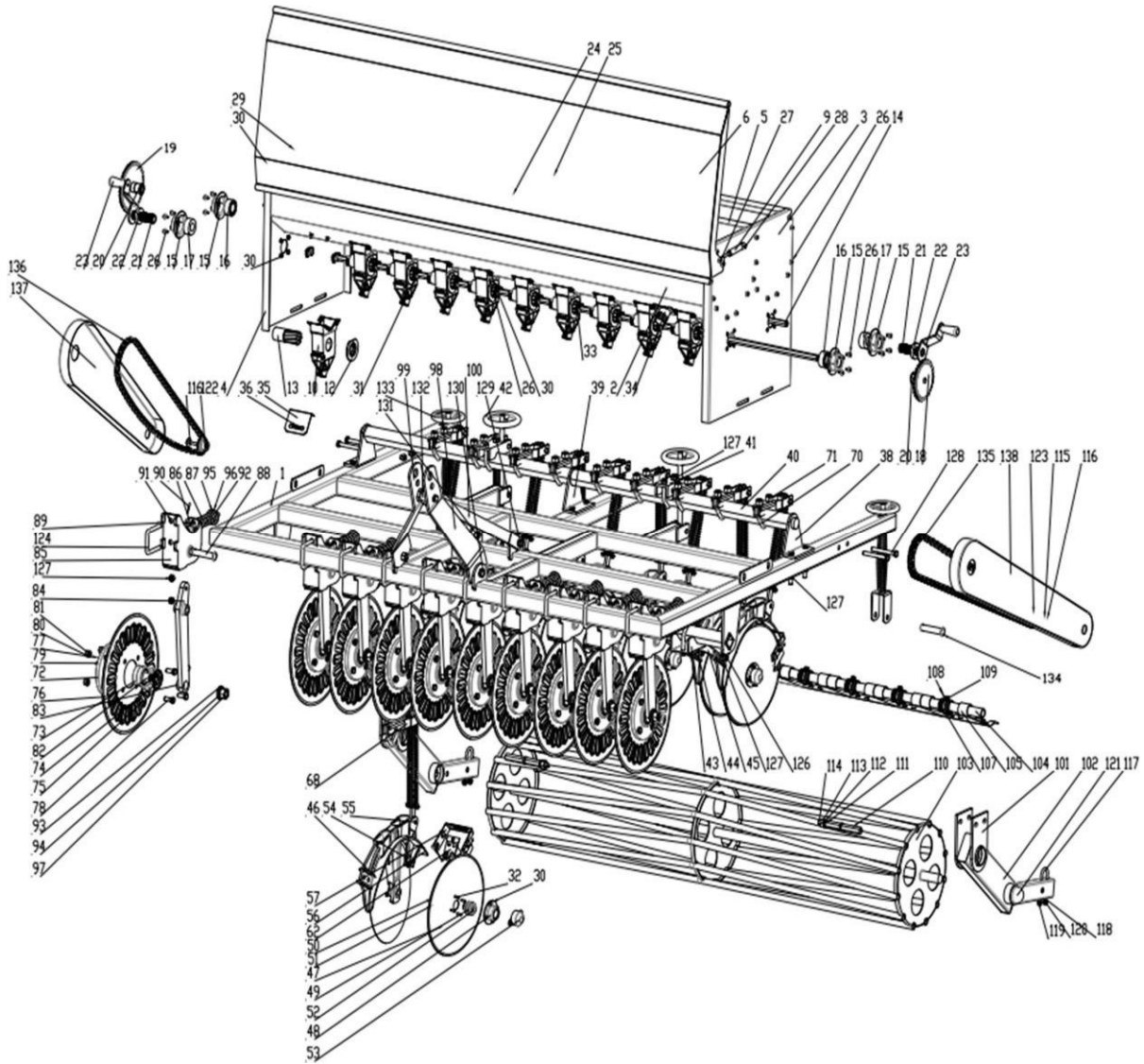
# BULLY Mini-Till Seeder



## NTD140 & 198 Mini-Till Seeder

Ref	Part #	Description	Qty
1	SA4001-55	Frame for BULLY NTD140	1
	SA4001-78	Frame for BULLY NTD198	1
2	SA1003-55	Hopper for BULLY NTD140	1
	SA1003-78	Hopper for BULLY NTD198	1
6	SA1001-55	Hopper Lid for SAYA-55	1
	SA1001-78	Hopper Lid for SAYA-78	1
9	DL5003	Lid Piston	2
13	DL7001-L	Seed cup Distribution Box- Large Seed	10
	DL7001-S	Seed cup Distribution Box- Small Seed	10
14	SA10001-55	Hex Seed box Shaft for BULLY NTD140	2
	SA10001-78	Hex Seed box Shaft for SAYA-78	2
15	DL1005	Bearing for Assembly Drive Shaft	4
16	B305222	Bearing- B305222	2
18	DL2006	Drive Sprocket Z26	1
19	DL2003	Drive Sprocket Z40	1
23	SA2005	Handle Assy	2
	SA2005K	Knob for locking Handle Adjustment	2
26	BM061012	Bolt- M6 x 1.0 x 12	131
27	BM061016	Bolt- M6 x 1.0 x 16	2
28	BM0812535	Bolt- M8 x 1.25 x 35	4
29	LN08125	Lock Nut- M8 x 1.25	4
30	LN0610	Lock Nut- M6 x 1.0	252
31	DL7002	Seed Cup Funnel	84
32	BM061020	Bolt- M6 x 1.0 x 20	164
33	DL7005	Pointer	84
34	DL1006	Cleanout Spout	2
35	DL7004A	Right to Left	1
	DL7004B	(Front) Left to Right (Rear)	1
38	SA5001	Torsion Lateral Bracket	2
39	SA5002	Torsion Bar Center Support	1
40	SA5000-55	Torsion Bar for BULLY NTD140	1
	SA5000-78	Torsion Bar for BULLY NTD198	1
41	SA5003	Torsion Bar Clamp Bracket	2
44	SA6001	Disc Support Bracket Long (15 1/4")	5
45	SA6002	Disc Support Bracket Short (9 3/4")	5
46	SA6003/A	Disc Support- V-Bolt M12 x 1.75	10
	FW12	Flat Washer- M12	20
	LW12	Lock Washer- M12	20
	NM12175	Nut- M12 x 1.75	20
47	SA6004	Disc	20
48	SA6005	Disc Bearing Support	20
49	SA6008	Bearing Hub Assembly	40
53	SA6009	End Cap	20

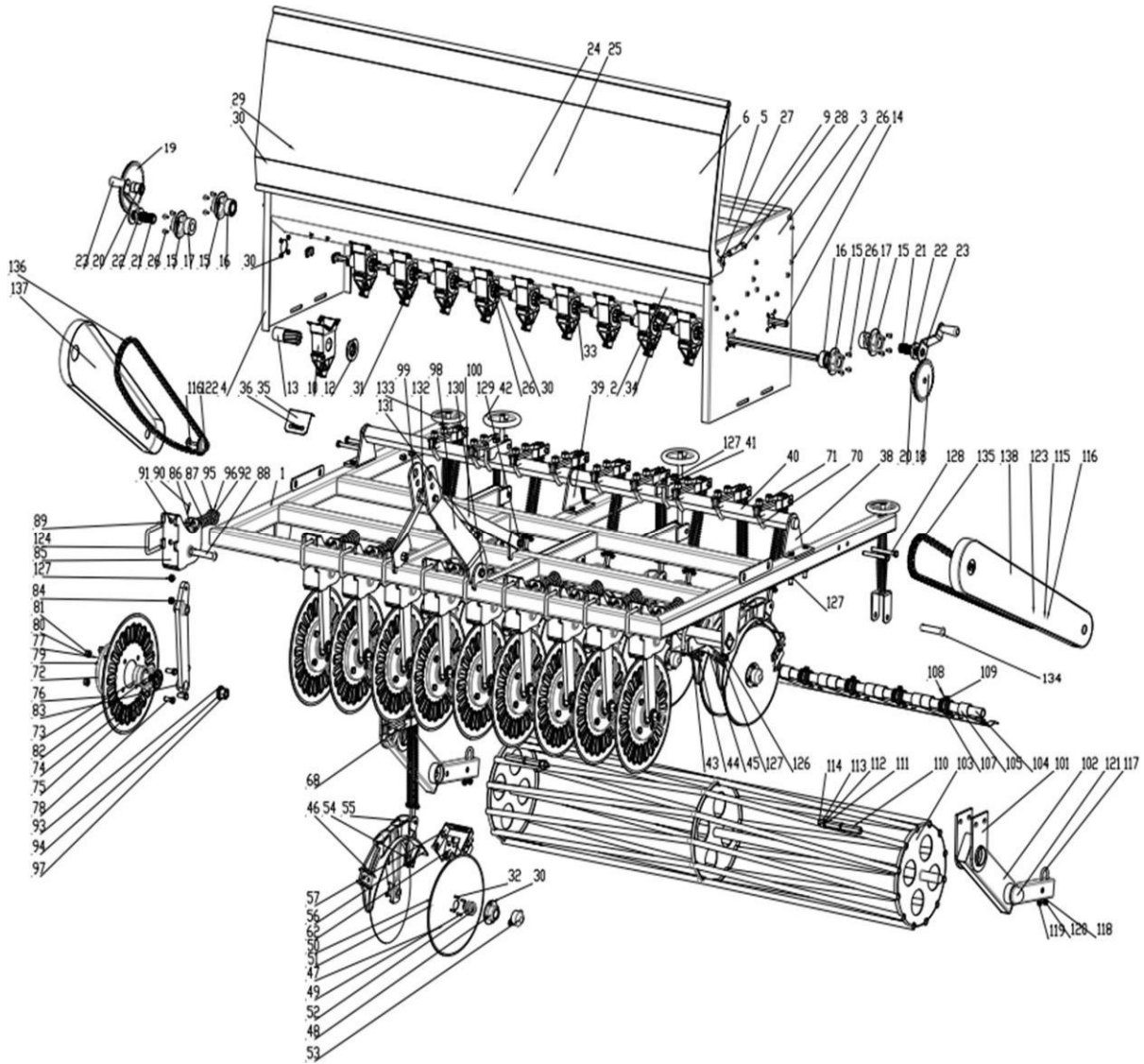
# BULLY Mini-Till Seeder



## NTD140 & 198 Mini-Till Seeder

<b>Ref</b>	<b>Part #</b>	<b>Description</b>	<b>Qty</b>
47	SA6004	Disc	20
48	SA6005	Disc Bearing Support	20
49	SA6008	Bearing Hub Assembly	40
53	SA6009	End Cap	20
57	DL6007	External Scraper Kit	10
62	SA6006	Internal Scraper Kit	10
68	SA7002	Disc Spring- Support assembly	10
70	SA7003	V-Bolt- M12 x 1.75	22
71	SA7004	Top Coulter Support Bracket- Left	10
71	SA7005	Top Coulter Support Bracket- Right	10
72	SA8003	Coulter Bearing Housing	10
84	SA8000	Coulter Support Arm	10
85	SA8001	Coulter Support Bracket	10
86	SA8005	Coulter Spring Arm	10
87	SA8004	Coulter Spring	10
	LNM1620	Self-Locking Nut- M16 x 2.0	10
98	SA4002-55-L	A-Frame for BULLY NTD140	1
98	SA4002-78-L	A-Frame for BULLY NTD198	1
99	SA4002-55-R	A-Frame for BULLY NTD140	1
98	SA4002-78-R	A-Frame for BULLY NTD198	1
100	SA4003	A Frame- Support (Back)	2
101	DL8003	Bracket - Roller Arm	4
102	DL8008	Roller Arm	2
103	SA9001-55	Drive Roller - BULLY NTD140	1
103	SA9001-78	Drive Roller - BULLY NTD198	1
104	SA9006-55	Scraperboard Rod - BULLY NTD140	1
104	SA9006-78	Scraperboard Rod - BULLY NTD198	1
105	DL11011	Spring-Loaded Scraperboard Assy.	9
107	BM0812550	Bolt- M8 x 1.25 x 50	9
108	FW08	Flat Washer- M8	18
110	DL8005	Small Sprocket Shaft	2
116	BM0812540	Bolt- M8 x 1.25 x 40	2
117	DL11013	U Bolt	2
121	DL10012	Dust Roller Cap	2
122	DL3005A	Drive Sprocket Z12	1
123	DL5005B	Drive Sprocket Z11	1
124	SA8006	U Bolt	10
126	BM121535	Bolt- M12 x 1.5 x35	20
127	NM1215	Nut- M12 x 1.5	74
128	BM1215100	Bolt- M12 x 1.5 x100	10

# BULLY Mini-Till Seeder



## NTD140 & 198 Mini-Till Seeder

Item #	Part #	Description	Qty
130	BM202560	Bolt- Bottom- M20 x 2.5 x 60	2
131	SA4004	3 Point Hitch Pins CAT. 2	3
	DL4012	Shoulder Pin- M20 x 115	
132	SA4005	3 Point Hitch Pins CAT. 1	3
133	SA5004	Adjustment Wheel	2
134A	DL8001	Adjustment Rod Shoulder Pin- M16 x 70	
134B	CP3x25	Cotter Pin- M3 x 25	
135	SA3004A	Chain (#30)- Front Hopper	1
136	SA3004A	Chain (#40)- Rear Hopper	1
137	SA10005	Right Chain Cover	1
138	SA10004	Left Chain Cover	1
139	BM2025110	Bolt- Top Hitch- M20 x 2.5 x 110	1
140	SA9002	Adjustment Shaft Wheel	2
141	SA9003	Adjustment Shaft	2
142	DL3002	Seed Hose (Not Shown)	20
143	SA9004	Seed Tube Bellows (Not Shown)	20
144	SA9005	Tube wire clamps (Not Shown)	20

# WARRANTY

Belco Resources Equipment Division, LLC offer the following warranty to the purchaser of COSMO BULLY No-Till Seed Drill provided the implement shall be in the possession of and used by such purchaser as from the date of delivery.

Belco Resources Equipment Division, LLC warrants its products for a period of twelve (12) months against defective parts. This warranty shall not apply to implements or parts that have been subjected to negligence, of accident, or that have been altered or repaired or used with non-genuine parts.

## CONDITIONS

**If you wish to make a warranty claim you must first contact the supplier of your goods to begin the claim process.**

The following are the warranty terms and conditions for new goods sold in Australia by Farm Implements P/L in conjunction with the manufacture Tirth Agro Technology Pvt. Ltd ( "We", "Our" or "Us"), both of 12 Tarmac Way Pakenham, Victoria, Australia, 3810.

1. To the extent that any goods or services supplied by Us are supplied to a 'consumer' as defined in the Australian Consumer Law, We will comply with any applicable consumer guarantees and the following statement will apply: "Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure."
2. 'Australian Consumer Law' means Schedule 2 of the Competition and Consumer Act 2010 (Cth).
3. The warranties provided in this document are in addition to any other rights or remedies available to you under the law, and do not limit the consumer guarantees for 'consumers' under the Australian Consumer Law.
4. Goods presented for repair may be replaced by refurbished goods of the same type rather than being repaired. Refurbished parts may be used to repair the goods.
5. Any warranty claim that is the result of operator abuse, neglect or unauthorized modifications being made to the good will not be considered valid, subject to the Australian Consumer Laws. The warranty does not cover costs of claiming under this warranty; depreciation, damage, malfunction or failure caused by normal wear and tear; lack of reasonable maintenance or improper servicing; failure to follow operating instructions; misuse or lack of proper protection during storage. The expected normal working conditions and maintenance requirements are outlined in the relevant operator's manual.
6. All new Implements are provided with a 12-month comprehensive warranty from the date of invoice against faulty workmanship or materials, under normal working conditions and service, as outlined in the relevant operational manual for the particular good. Your warranty for those goods will be considered void if any damage to the implement is caused by operator abuse, neglect, or if any unauthorized modifications have been made.

7. If you wish to make a warranty claim, you must immediately report the defect to the supplier within the warranty or consumer guarantee claim period, including a written statement of your claim, along with photos of the current condition of the goods by mail (or if possible, email) to the address of the place from which you purchased the good. You will be required to present valid proof of purchase, and at your expense promptly provide the goods to the supplier immediately after notification of a service issue.
8. Please note that We require an assessment of the condition of the goods to be conducted by either the supplier, Us or the manufacturer, as well as obtaining a history of use of the good, before We can determine whether a consumer guarantee or manufacturer's warranty is applicable. We are not responsible for any transportation cost incurred in the repair or replacement of parts not covered by the warranty.
9. To the maximum extent permitted by law, and except in circumstances where the consumer guarantee provisions under the Australian Consumer Law apply and are inconsistent with the following, Our liability for the supply of the goods is limited, at Our discretion, to 1) replacement of the goods or the supply of equivalent goods; 2) repair of the goods; 3) payment of the cost of replacing the goods or acquiring equivalent goods; or 4) payment of the cost of having the goods repaired.
10. You acknowledge that use of the goods is inherently dangerous and agree that to the maximum extent permitted by law, We are not liable in any event for consequential loss, damage or injury, including loss of crops, loss of profits, or personal injury or death howsoever caused.
11. Farm Implements Dealers have no authority to make any representation, promise or admission on behalf of Us or to modify the terms or limitations of these Warranty Conditions in any way. Nothing in these Warranty Conditions constitutes a partnership between Us and any Farm Implements Dealer, or constitutes any Authorized Dealer as an agent or employee of Ours for any purpose at all. Our Dealers have no authority or power to bind Us, to contract in the name of Farm Implements P/L or to create a liability against Us in any way or for any purpose at all, including but not limited to representations regarding performance or fitness for any purpose of the goods.

**If you have specific queries regarding the warranties or consumer guarantees provided by Farm Implements P/L in conjunction with the manufacture Belco Resources Equipment Division, LLC please send details of your claim to Our attention at 12 Tarmac Way Pakenham, Victoria, Australia, 3810, or via email at [sales@farmimplements.com.au](mailto:sales@farmimplements.com.au) or phone 03-9706-5166.**

**THIS CONTRACT WILL BE INEFFECTIVE AND INOPERATIVE IF:**

- a. The implement had not been delivered, assembled, started and put into operation by the company or its Authorized Representative.
- b. The warranty card has not been returned within 30 days of date of purchase.
- c. The implement or parts thereof is subjected to neglect, fire, flood or other acts of God or if in the company's opinion any damage has caused to the COSMO BULLY MULCHER in transportation.
- d. The original numbers are removed, obliterated or altered from the unit.
- e. Any attempt is made to have the repairs executed by a person or persons, other than the company or its authorized representative.



- f. Any defect is not informed immediately to the company or its authorized representative, any alteration in warranty card is made.
- g. Any change in the location of the implement or its ownership during the warranty period must be intimated in writing to the company or its Authorized Representative ten days before the change. Failure to do so will absolve the company from the obligation under this warranty.
- h. Damage to the implement or any part thereof caused, during shifting or transportation is not covered by this warranty.
- i. This warranty is given in lieu of all other guarantees and condition expressed or implied by law or by any person purporting to act on behalf of the COMPANY and excludes every condition, warranty or guarantee not herein expressly set out.

**NT – Parts/materials that are not covered by the warranty are as follows:**

- 1. Disc**
- 2. Springs**
- 3. Chains**
- 4. Paint**
- 5. Rubber Parts**
- 6. Gaskets**
- 7. Fasteners**

**❖ WHEN THE WARRANTY BECOMES VOID**

Besides the cases specified in the supply agreement, the warranty shall in any case become void:

Should there have been a maneuvering error.

When the implement has been used beyond the specified power limit as given in the technical data chart.

When following repairs made by the customer without authorization from the manufacturer or owing to instillation of spurious spare parts, the machine is subjected to variations and the damage can be ascribed to these variations.

Whenever the user or anyone else on his behalf applies equipment to the machine that has not been expressly approved by the manufacturer.

When the user failed to comply with the instructions in this manual book.



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[www.farmimplements.com.au](http://www.farmimplements.com.au)