

AITCHISON
SEEDMATIC
40/4124Series
DRILLS



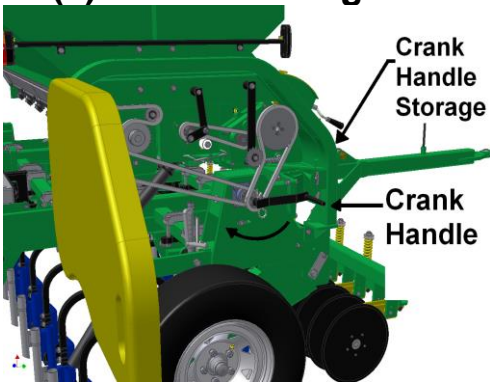
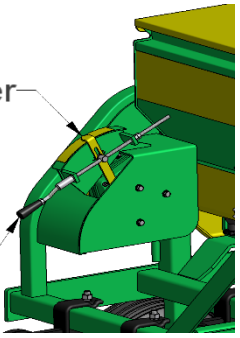
REESE ENGINEERING LTD
41 KELVIN GROVE ROAD – PO BOX 5056
PALMERSTON NORTH, NEW ZEALAND
PHONE: +64 6 357 9323
FAX: +64 6 354 3155
www.reeseagri.com

CALIBRATING THE DRILL TO CHECK THE SOWING RATE

NOTE: When new the Seed Pads may have a white powder (chalk dust) on them. This is to prevent them from sticking together during manufacturing. This chalk dust will impede your seeding rate until it has been removed or until it dissipates. This can be done by hand, or over time by using the seed drill.

By Hand: This can be achieved by sliding the Seed Pad away from the Metering Unit and dusted off with compressed air.

Dissipates: **Simply using the Seed Drill.** (The seeding rate will slowly increase as the chalk dust dissipates. (Usually within the first hour of use.) **RE-CALIBRATE.**

<p>(1) Prime:</p> <p>Place seed in the hopper over any 5 adjoining outlets. Rotate the Crank Handle until a steady flow of seed can be witnessed falling from the seed outlets.</p> <p>Set the Gearbox pointer in the appropriate position for you desired seed sowing rate. (See Seed Chart under hopper lid.)</p>	<p>(2) Seed Catchment:</p> <p>Place the Calibration Tray under the 5 appropriate Seed metering Units to catch the metered seed.</p> <p>Another method is to pull the black seed dropper hose off the 5 appropriate Coulter Tubes and place them in a bag or container.</p>
<p>(3) Seed Metering:</p>  <p>Rotate Crank Handle Clockwise 29 times.</p>	<p>(4) Weigh Seed:</p> <p>Catch and weigh the total amount metered through the 5 metering units. (in grams).</p> <p>NOTE: Remember “TARE” scales before weighing; for the weight of the bag or container.</p>
<p>(5) Conversion:</p> <p>Divide the weight measured by 3 to establish kilograms per hectare.</p> <p>ie: 45 grams / 3 = 15kg/ha</p>	<p>(6) Check:</p>  <p>If above or below the desired rate, make the necessary adjustment via the Gearbox Pointer Adjuster. RECALIBRATE</p>

Follow the above steps to calibrate the Fertiliser Hopper.

LAYMANS GUIDE TO SEEDING VARIANCE

The Aitchison Sponge Seed Delivery System is a highly accurate, consistent and gentle method for delivery of seeds. We are pleased you chose to make use of our technology. To get started, we have created the attached seed charts. They are guides that will in many cases allow you to start with reasonable accuracy.

Along with these charts you will also need to know how to compensate for variations in seeds. We are fortunate to have many companies that are constantly providing new seed; however, this also makes any seed chart a **GUIDE ONLY**. Use the rules listed below when suitable, and when you need more accuracy consider the following.

The seed count may be different; the coatings on the seed may be different; the humidity can be different; the seed size due to cultivars may be different; the moisture content of the seeds may be different; the seed may be husked or still have it's beard; and other differences which would affect the seeding rate.

Example

Temperate charts were calibrated for Ryegrass. Line 1 on Range 1 was calibrated at an ambient temperature of 64°F (18°C). Moisture content of the seed was 14%. The 1000 seed count was 0.07 ounce (2 grams) and the seeds were approx ¼" long (6.6mm) by 1/16" wide (1.5mm). There were no coatings or dressings and was cleaned of gin trash.

Note also that all seeds used on original chart were uncoated.

As it is unlikely your sample will directly match the above we suggest calibration at all times. Below are some general guidelines on what influences will affect you seeding.

SEED SIZE: Small seeds flow faster

SEED COATING: Fungicides that are dull and sticky will slow seeding rates.

TEMPERATURE: Cold will slow seeding rates, heat will increase.

HUMIDITY: High humidity slows sowing rates, dry increase sowing rates.

SEED MIXTURE: Sowing small round seeds with flat long seeds, i.e. ryegrass and clover, the rate will be increased significantly.

WHEEL DIAMETER: On cultivated soil slippage will reduce sowing rate.

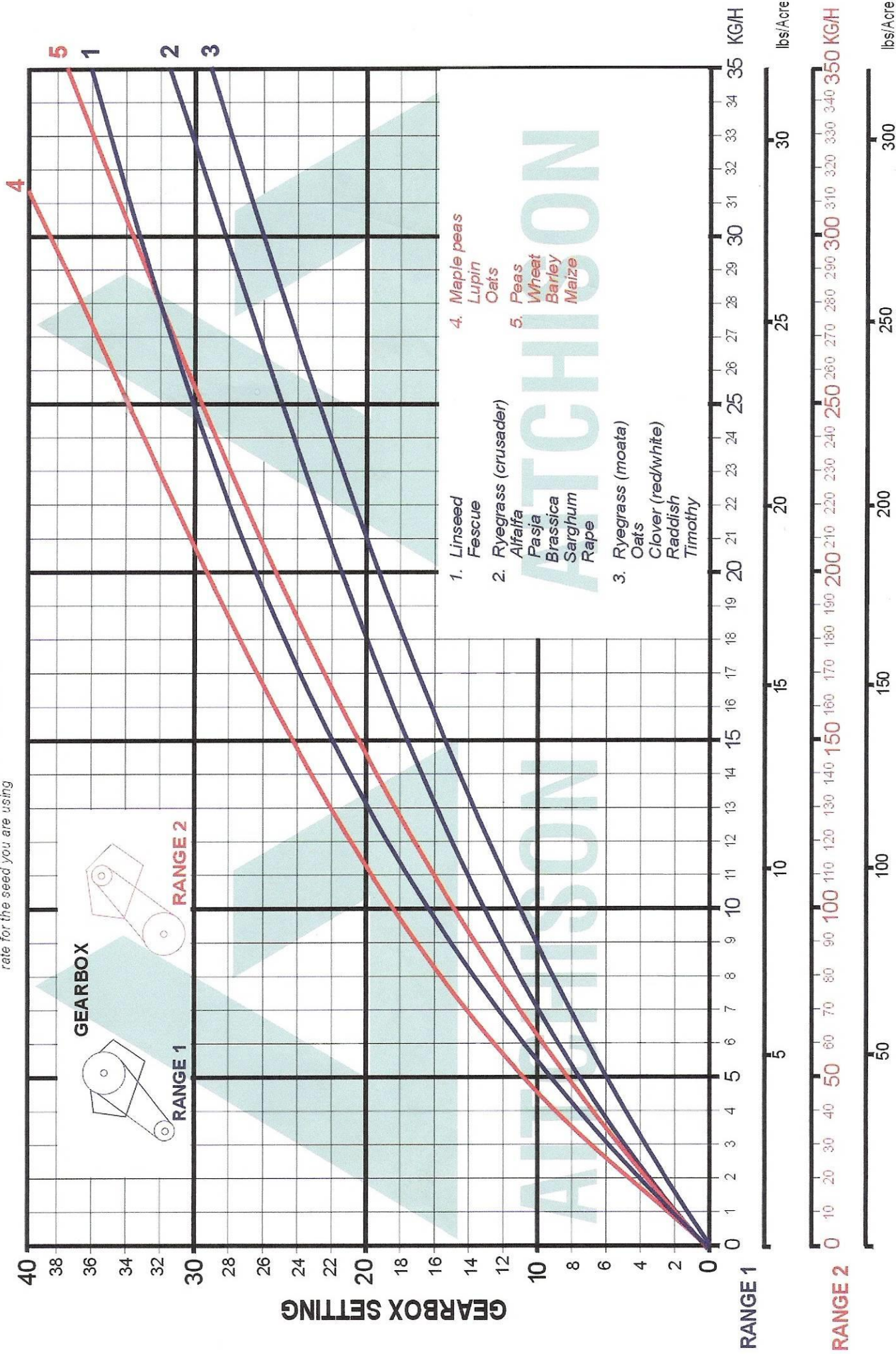
RECORD PREVIOUS RESULTS: Keep a note book and record for future reference, mixtures, conditions and setting chosen.

Think in four quarters not the whole paddock. When the hopper runs out (1/4 paddock) check your rate back from the area covered.

ALWAYS CALIBRATE BEFORE SEEDING!!!

TEMPERATE SEEDS

NOTE: This chart is a **GUIDE ONLY** and different seed lines within a species can have markedly different results. Therefore calibration is recommended as the only truly accurate way of obtaining the desired sowing rate for the seed you are using



DIFFICULT SEEDS TO SOW

There are a number of seeds that are difficult to sow due to their physical shape and weight.

These include:

- Prairie Grass
- Buffel Grass
- Callida Rhodes Grass
- Unclipped oats

If seeds adhere to the sponge pad, fit the oat wiper (Part # A2366). If there are problems with large seeds failing to pick up with the sponge it will be necessary to fit the bean spacers (Part # A2365-01) which space out the pads leaving a greater surface to pick up seed.

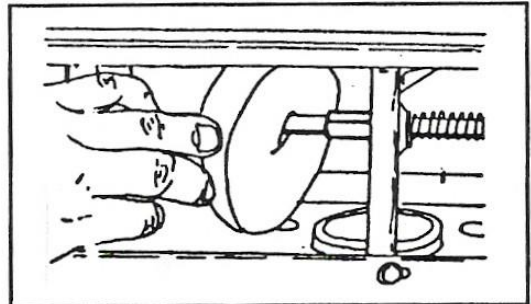
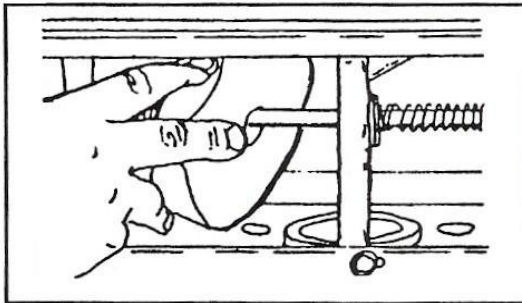
OAT WIPER AND BEAN SPACER

Bean Spacer (Optional)

When sowing large smooth seeds such as beans markedly improved seeding performance is achieved by fitting spacers between the sponge and the seeder casting. This in effect moves the sponge away from the seeder casting and allows for better entry of the seeds into the sponge. A better 'pick up' is attained and seeding consistency is improved.

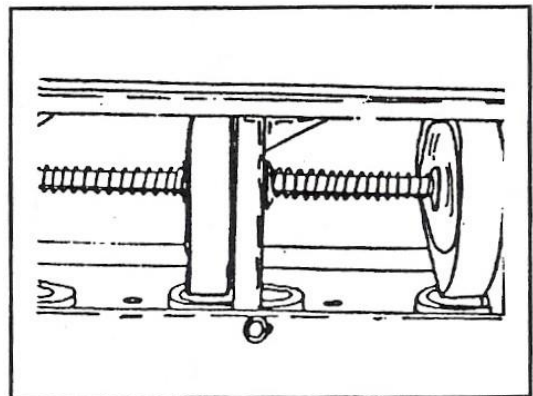
Also to decrease the advent of intermittency and improve seed spacing it is advisable to use the seeder agitator set on maximum spring pressure.

To fit the spacers follow these instructions:



1. Pull the sponge away from the seeder casting.
2. Fit the Bean Spacer between the sponge pad and the seeder unit.
3. Allow the sponge pad to return to the seeding position with approx 3mm (1/32") between the sponge pad and seeder unit.

WARNING: When the bean spacers are fitted always go back and recalibrate the drill.



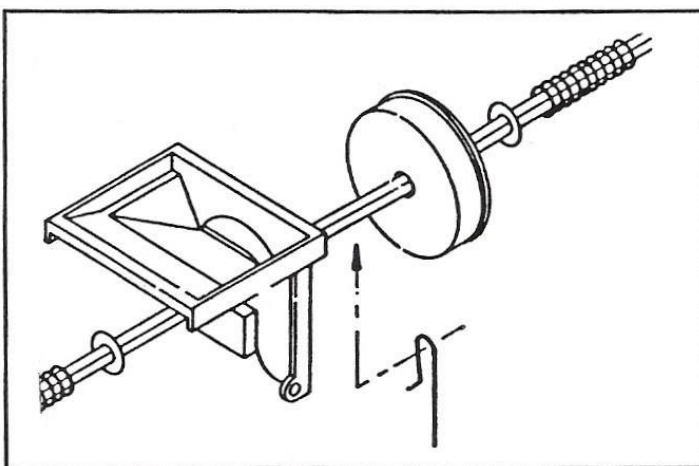
If small seeds need to be sown (i.e. grass seed, brassicas) or small grains (i.e. wheat) always remove the spacers and store in a safe place.

OAT WIPER (Optional)

The oat wiper is an optional extra that is designed to wipe clean the sponge pad if heavily awned seeds are not being sown. These will tend to collect on the pad and as the build-up increases inaccuracies in the seeding rates will occur.

To fit the wiper, remove the front panel from seed box. Pull the sponge pad away from the seeder assembly and place the wiper on the centre shaft BETWEEN the pad and the casting. The wiper works in such a way that it presents a flexible edge on the oats and in effect 'wipes' the seeds that may be sticking to the pads on each rotation.

Fit the Oat Wiper between the sponge pad and the seeder unit.



RODENT DANGER

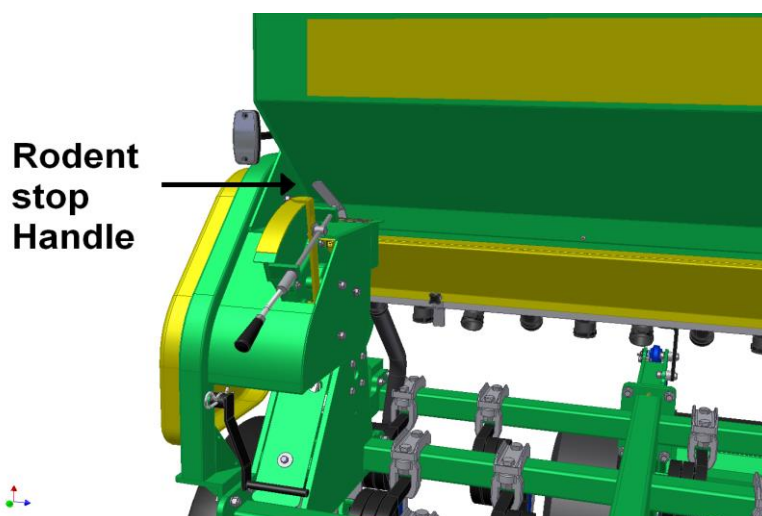
The sponge seed mechanism is unique – it has great capacity to sow seed consistently and accurately. However, if seeds are left in the hopper over the winter months rats and mice will find an entry point into the hopper by chewing through the sponge pad to reach the seeds. The simple solution therefore is to **remove the seeds**.

BLANKOFF TRAY (Rodent Stop)

Your SEEDMATIC drill is equipped with a “Rodent Stop/Blankoff Tray”. This blankoff tray is located under the seed hopper, between the seeder units and the seed dropper hose. The purpose of this tray is to **help** prevent rodent damage to the sponge pads. This blankoff tray is **not** fool proof. Mice and rats can and will damage your new machine if any food is left in or on the machine.

Located at the drive end (RH side of drill) is the sprung handle, this handle slides and locks the blankoff tray.

The blankoff tray should be open when planting seeds, then slid closed when the drill is not in use to prevent rodents from climbing up the seed dropper hoses.



Move Handle towards the centre of drill to close off.

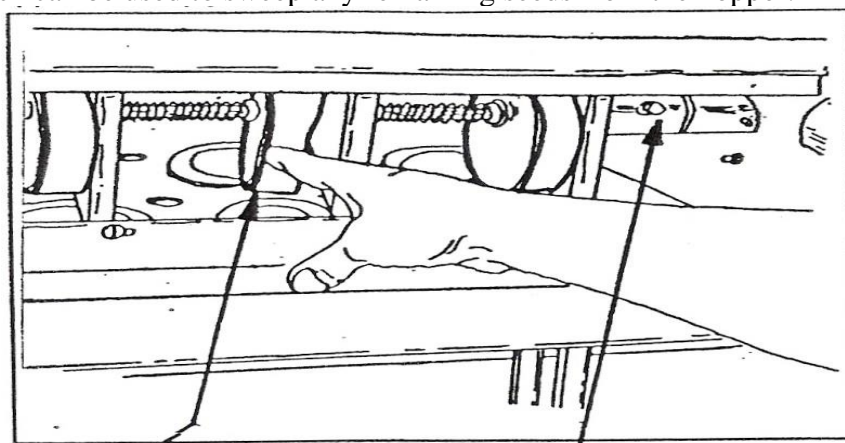
To give added protection, sponge pads can be treated with any strongly odoured insecticide powder – DIASINIT, LINDANE, MALATHION, and THIMET.

Note: Rodent repellent can also be ordered from Aitchison's via your local dealer (Part # 9341).

Note: If your farm or shed has rodent we, recommend that the seed pads are removed after each use of the machine.

REMOVAL OF SEED FROM HOPPER

There is probably no easier drill to clean than this Aitchison Drill. Remove the front/rear panel by way of wing nuts and manually move the sponge pads away from the seeder casting. Any remaining seeds within the hopper will simply fall out. A small brush can be used to sweep any remaining seeds from the hopper.



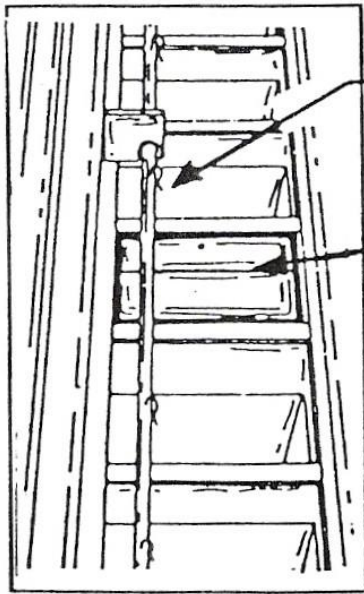
Push pads away to clean out seeds. To remove pads, loosen this setscrew and move shaft to the left.

SPECIAL PURPOSE SEEDING

If the quantity of seed is too small to accurately weigh then collect the seed from 10 outlets and halve the result before applying the general formulae.

Using Blank Off Plates

If the blank off plates are used – this drill is calculated for rates of 150mm (6”) spacing. Blank off plates can be used if wider rows are required. These are fitted by removing the “R” clip agitator pin and fitting a plate (see illustration). These are simple to make using a square of stiff plastic or plywood.



Remove 'R' clip

Insert blank-off plate here

Blank off plates are inserted on each alternative seeder outlet.

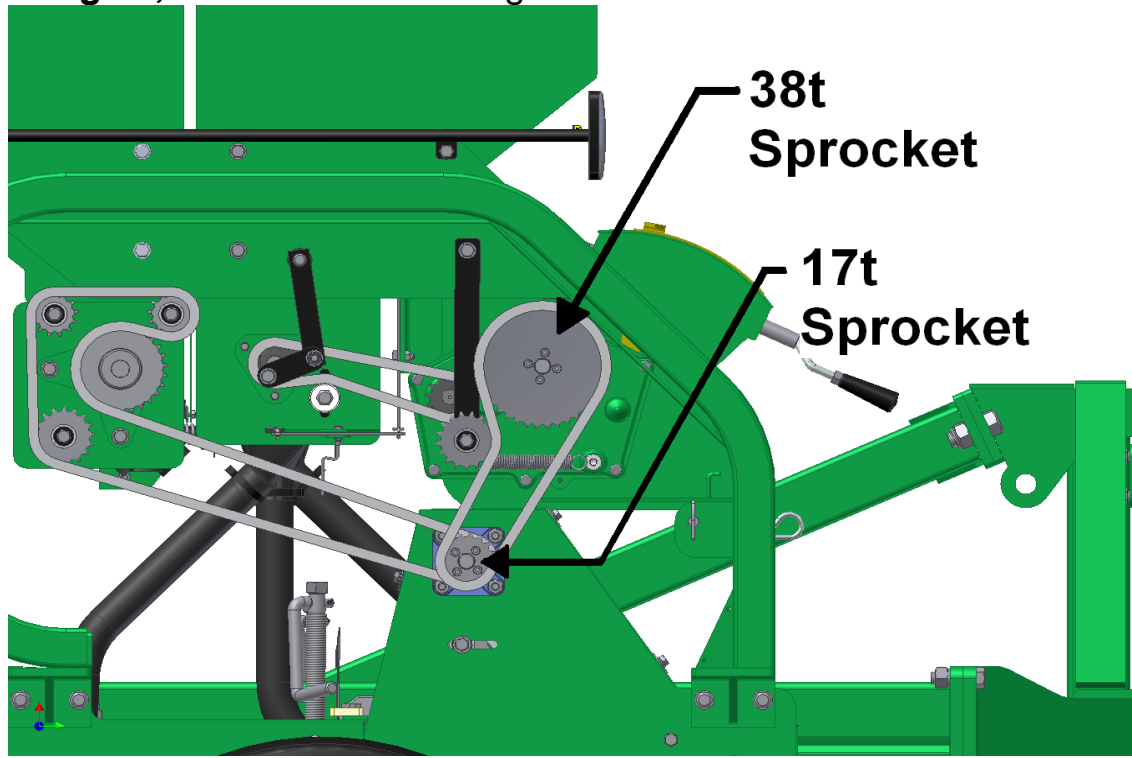
For calculating your seeding rates:

- If every **second row** is blanked off (250mm (10") spacing) catch seed from five outlets and divide by 6 (not 3).
- If every **second and third row** are blanked off (375mm (15") spacing) catch seed from five outlets and divide by 9 (not 3)

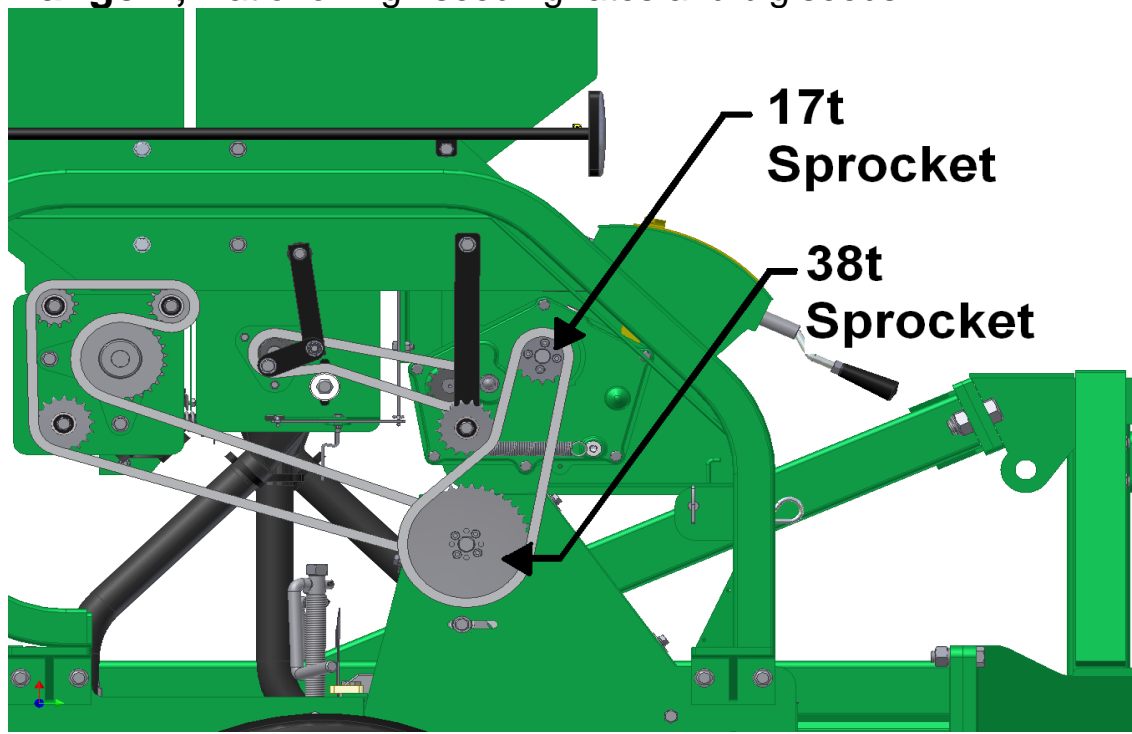
CHANGING THE GEARBOX RATIO: Range 1 – Range 2

To change range: use a 5mm Hex Key to remove the 4 Cap Screws in each sprocket; replace them end for end.

Range 1; Ratio for low seeding rates and small seeds.



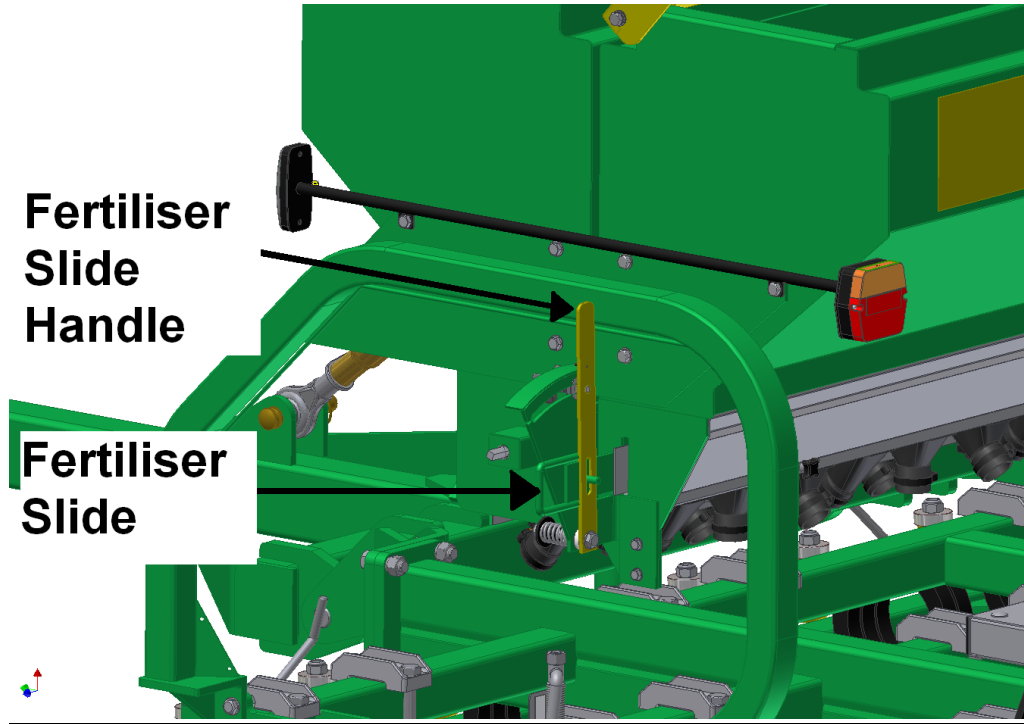
Range 2; Ratio for high seeding rates and big seeds.



THE FERTILISER SYSTEM

Different types of fertiliser may vary slightly from the general rate of curve shown. The fertiliser rate is verified by using the same calibration procedure as used to calibrate the seed. (Page 20)

To change the fertiliser application rate, move the slide in for less or out for more.



FERTILISER APPLICATION CHART

