

AITCHISON
SEEDMATIC
40/4124 E Series
DRILLS
Electronic Drive



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Introduction

Dear Valued Owner,

Congratulations, you have just made an excellent investment.

Your new Aitchison drill has been designed and engineered to give years of dependable service. Every consideration has been taken to incorporate the latest technology, thus ensuring optimum seeding is achieved. Aitchison Drills provide the optimum agronomic environment, ensuring proper seedling germination, leading to superior crops and thus greater revenue earning potential.

It has often been said: “when all else fails-read the operator’s manual” and to ensure you get the best from your new Aitchison drill it is very important that you thoroughly read through the entire contents of the manual. Please also pay attention to the maintenance recommendations, understand the calibration system and consider the design features and their specific functionality.

Your local dealer carries an extensive range of genuine Aitchison spare parts and consumables that also have been engineered to provide long service and life. It is important that only genuine parts are used on your drill.

Thank you for making your investment in our expertise.

Yours Sincerely,

Ross Simpson

Director
Reese Agri

WARNING

THE OPERATION AND ADJUSTMENT OF THE REESE MACHINE REQUIRES A COMPLETE KNOWLEDGE OF THE CONTENTS OF THIS HANDBOOK. TO AVOID PERSONAL INJURY PLEASE ENSURE THAT ALL PERSONNEL ARE THOROUGHLY CONVERSANT WITH ALL DETAILS BEFORE COMMENCEMENT OF OPERATION OR MAINTENANCE.

WARRANTY

COMPLETE AND RETURN WARRANTY REGISTRATION TO ENSURE VALIDATION.

IN AUSTRALIA AND NZ RETURN TO: REESE ENGINEERING LTD, PO BOX 5056, PALMERSTON NORTH, NEW ZEALAND

REESE warrants that the Machine delivered shall conform to the specifications set out in this Handbook.

REESE makes no warranty of saleability or fitness for a particular use, nor is there any other express or implied warranty.

Subject to such other conditions, warranties, and/or undertakings which may apply from time to time under any applicable law, REESE warrants with respect to each new AITCHISON Machine sold by its accredited agents, that for a period of twelve months from the dates of original retail sale, REESE will repair or replace free of charge any part found to be defective in factory materials or workmanship under normal use and operation within the United States of America, Canada, Australia and New Zealand provided that;

1. The Machine

- (a) has been properly assembled and adjusted
- (b) has been properly used and operated within the capacity and operating limitations specified by the manufacturer thereof, and
- (c) has been properly maintained and cared for.

2. This Warranty applies to direct purchase from an authorized AITCHISON dealer. If any defect or fault shall arise such purchaser must return the defective work or Machine to an authorized AITCHISON Dealer within ten working days of such defect or fault arising.

3. In the event of the purchaser attempting to repair or replace the work or product without prior written consent of an authorized AITCHISON Distributor this guarantee shall become void. REESE may replace or repair any damaged product or work at its discretion.

4. In respect of such Machine this warranty does not apply to:

- (d) misuses or carelessness in handling,
- (e) Non-compliance to REESE's operating and maintenance instruction,
- (f) Unauthorized repairs or alterations,
- (g) Consequential damage resulting from misuse or initial faults,
- (h) Parts subjected to wear or damage as a result of normal operation i.e.
 - i. Sponge pads and discs
 - ii. Tines and boots
 - iii. Discs
 - iv. Tyres
 - v. Hydraulic components

5. Any disputes in relation to this contract or product shall be governed by New Zealand law and shall be determined in New Zealand court.

TO THE OWNER AND OPERATOR

Your Aitchison Drill was carefully designed and manufactured to give you years of dependable service. To keep it running efficiently, read and follow the instructions in this operator's manual. Any questions you may have that are not covered in this manual should be referred to your dealer:

Dealers Name: _____

Address: _____

Phone No: Business: _____ Private: _____

Date of Purchase: _____

Model: _____ Serial Number: _____

The warranty card on your Seedmatic Drill is included with this manual. Please ensure that the registration card is correctly filled in.

The owner must ensure the dealer, upon delivery of the machine, has completed the **WARRANTY REGISTRATION CARD**. This must be signed by the owner and returned to the factory promptly. **Failure to carry out this function could nullify warranty claim opportunities against the factory in the future.** Warranty claims will only be accepted for registered products.

When ordering spare parts, quote the model and serial number of the drill and use the Aitchison part number given in the parts section. Reference to the right hand and left hand is taken from behind in the direction of travel.

TECHNICAL SPECIFICATIONS

Model	4024E	4024TE	4124CE	4124CTE
Transport Width	3.425m 11.23ft	3.425m 11.23ft	3.425m 11.23ft	3.425m 11.23ft
Sowing Width	3.000m 9.8ft	3.000m 9.8ft	3.000m 9.8ft	3.000m 9.8ft
Height	1.750m 5.7ft	1.750m 5.7ft	1.750m 5.7ft	1.750m 5.7ft
Weight Empty	1420kg 3130lb	1785kg 3935lb	1550kg 3417lb	1915kg 4221lb
Length	2.080m 6.8ft	4.375m 14.3ft	2.270m 7.4ft	4.375m 14.3ft
Seed Capacity	850lt 24.1bu	850lt 24.1bu	570lt 16.1bu	570lt 16.1bu
Fertiliser Capacity	N/A	N/A	590lt 16.7bu	590lt 16.7bu
Number of Coulters & row spacings	24 Rows @ 125mm / 5"	24 Rows @ 125mm / 5"	24 Rows @ 125mm / 5"	24 Rows @ 125mm / 5"

Optional Accessories:

Bin level indicator; A3083

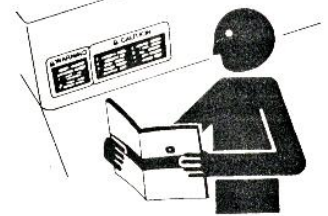
Hydraulic Kit for Drawbar; A3129

SAFETY FIRST

Keep all covers in place when using the drill.
Stop the drill before making adjustments.
Lower the drill to the ground or put on props when working around the machine.
Tighten all nuts and bolts after initial use.

FOLLOW SAFETY INSTRUCTIONS

Carefully read all safety messages in this manual
And safety signs on your machine. Replace missing
or damaged safety signs, these can be ordered from
your local Aitchison dealer.



Learn how to operate the machine and how to use controls properly. Do not let
anyone operate it without instruction.

Keep your machine in proper working condition. Unauthorized modifications to the
machine may impair the function and/or safety and affect machine life.

If you do not understand any part of this manual and need assistance, contact your
Aitchison dealer.

OPERATE YOUR MACHINE SAFELY

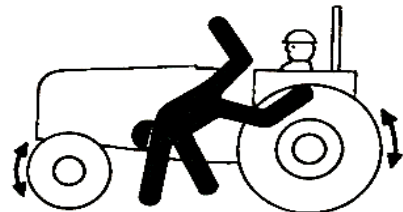
Be careful when operating machine to avoid injury.

Serious injury or death can result from contact with
electric lines. Use care when moving or operating
the machine near electric lines to avoid contact.



Be careful when operating on hillsides, tractor can tip sideways if it strikes a hole,
ditch or other irregularity.

Permit only one person, the operator, on tractor
platform while tractor and planter are in operation.
Keep riders off. They are subject to injury such as
being struck by foreign object and being thrown off
the machine. They also obstruct the operators view.

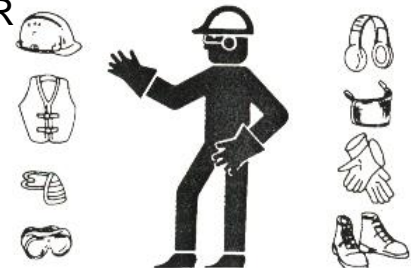


WEAR PROTECTIVE GEAR

Wear close fitting clothes and safety equipment
appropriate to the job.

Wear suitable hearing protective device as
prolonged exposure to loud noise can cause
impairment or loss of hearing.

Wear safety gloves when working with discs as they can have sharp edges.

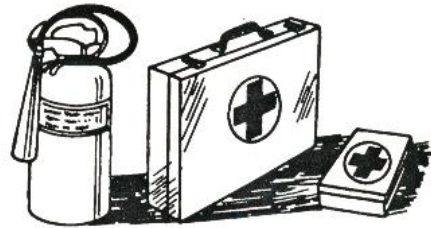


Operating equipment safely requires the full attention of the operator. Do not wear
radio headphones while operating machine.

BE SAFE WITH CHEMICALS

Direct exposure to agricultural and hazardous chemicals can cause serious injury. Potentially hazardous chemicals used with Aitchison equipment include such items as lubricants, coolants, fertilizer, paint and adhesives. If in doubt, contact your local Aitchison dealer for information about chemical safety and first aid procedures.

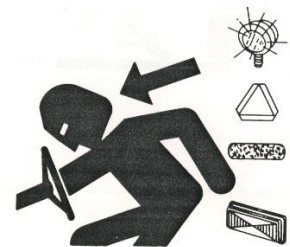
Keep a fire extinguisher and first aid kit handy



When disposing of chemicals, make sure hoppers are properly washed to get rid of any chemical residue and that any chemicals are disposed of in an approved manner. Follow instructions of chemical manufacturers for disposal methods.

USE SAFETY LIGHT AND DEVICES

Slow moving tractors and equipment can create a hazard when driven on public roads. They are difficult to see, especially at night. This could lead to personal injury or death if a collision with a vehicle occurs.



Whenever driving on public roads, use flashing warning lights. Provide extra lighting at night on machine and tractor. An implement safety lighting kit is available from Aitchison Industries.

TRANSPORT SAFELY

Do not exceed transport speed for machine; see your local Aitchison dealer. Never transport at any speed which does not permit adequate control of steering and stopping.

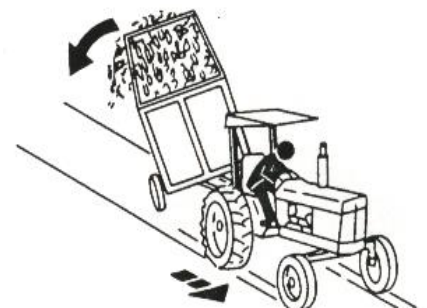
Reduce speed over rough ground

For safe transport, tractor must weigh more than machine.

REDUCE SPEED WHEN TOWING LOADS

Braking to stop towed loads from transport speeds can cause the towed load to swerve and upset. Reduce speed if towed load weighs more than the tractor and is not equipped with brakes.

Use additional caution when towing loads under adverse surface conditions, when turning and on road marking lines.



PRACTICE SAFE MAINTENANCE

Understand service procedure before doing work. Keep area clean and dry.

Never lubricate, service or adjust machine while it is moving. Keep hands, feet and clothing from power driven parts. Disengage all power and operate controls to relieve pressure. Lower equipment to the ground. Allow machine to cool.

Securely support any machine elements that must be raised for service work.

Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts. Remove any build-up of grease, oil, or debris.

Remove paint before welding or heating.
Avoid potentially toxic fumes and dust when sanding, repainting or welding. Do all work outside in a well-ventilated area. Dispose of paint and solvent properly.



Avoid heating near pressurized fluid lines or other flammable materials. Pressurized lines can be accidentally cut when heat goes beyond the immediate flame, which could result in severe burns to yourself and bystanders.

Avoid high-pressure fluids. Escaping fluid under pressure can cause injury. Relieve pressure before disconnecting hydraulic or other lines.

DISPOSE OF WASTE PROPERLY

Improper disposing of waste can threaten the environment and ecology. Use leak-proof equipment when draining fluids. Do not use food or beverage containers that may mislead someone into drinking from them.



Do not pour waste onto the ground, down a drain, or into any water source. Use the manufacturers directions on the correct way to recycle or dispose of waste.

GENERAL OPERATION IN THE FIELD

When the drill is in work in the field, adjust the top link to make the frame level and the sway chains to give 75-100mm (3-4") lateral movement. The tractor hydraulics should be set to allow the drill to float over the terrain unimpeded by the movement of the tractor. Adjust the depth wheels evenly on both sides to give the required opener penetration. In extremely hard conditions it is permissible to weigh the front of the drill to aid penetration.

The drill should always be moving forward when lowered or raised from work. Avoid stopping and never reverse with drill in work. These precautions will avoid blocking outlets; however make periodic checks for blockages while drilling.

The speed of travel is governed by the conditions e.g. if the ground is rough the drill may tend to bounce which would necessitate a lower speed. In optimum conditions 8 km/h (5 mph) may be maintained.

Always lift the drill out of the ground before turning sharp corners as this will protect the tines and openers and stop the turf from ripping.

Under no circumstances should the tractor wheels be allowed to slip excessively as this will break the turf and the following tines will tear up the ground. If slippage is a problem, use a tractor with more traction or wait for the ground to be in better condition. Towing chains or bar harrows behind the drill is very beneficial as this will crumble the groove and help to cover the seed.

PASTURELAND FARMING WITH SEEDMATIC

Continuous reaping of grasses either by machine or animal will eventually lead to their degeneration. Desired species of grasses and legumes will weaken and their ability to survive adverse climatic conditions will be diminished. Undesirable species of grasses and weeds will eventually tend to dominate, or pasture may simply thin out with minimal plant populations. Of course conditions that cause pasture degenerations vary from location to location, and from country to country, but one can assume that every pasture can be improved no matter where its location.

MANAGEMENT CONSIDERATIONS

In describing the technique for sowing seeds into uncultivated soils, we should clarify the terminology. It is most common to refer to CONSERVATION TILLAGE (or CT) but it may be called SOD-SEEDING in Australia, or DIRECT DRILLING in UK or even NO-TILL SEEDING in North America. Wherever it is practical, successful conservation tillage requires well considered, and thorough preparation, integrated with a whole farm management program.

The cropping rotation, optimum sowing dates and grazing fertilization program will depend on the seasonal vegetation or weed spectrum, paddock history, soil type, fertility and drainage, and many other factors.

Here is a checklist that should be followed for any CT program (courtesy of Monsanto NZ Ltd):

1. Check that the soil pH is around 6.0.
2. Check soil fertility levels for fertiliser requirement.
3. Ensure your spray boom has a marking system and is fully operational.
4. Establish optimum time for planting.
5. Check and control weeds present, before and during crop establishment.
6. Check and control insect and slug infestation before and during plant establishment.
7. Ensure soil conditions are suitable for drilling.
8. Inspect the crop regularly after planting.

Experience has shown that farmers new to CT can have crop failures on the first occasion, but as their skills and understanding of the technique improve, so do their crop results.



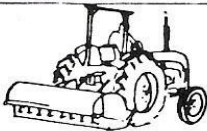

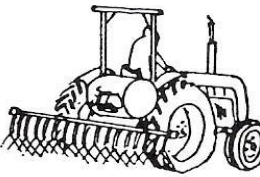
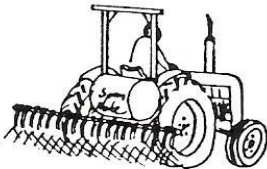
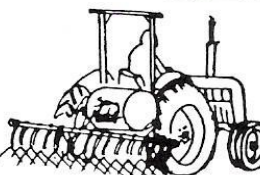



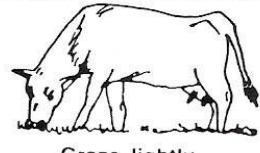
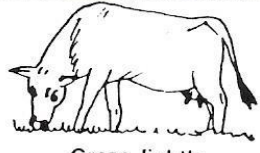
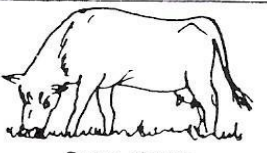
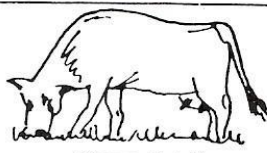
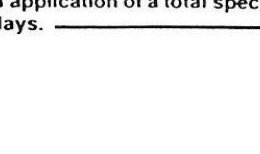
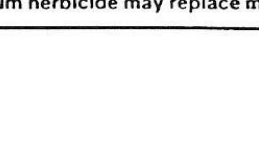
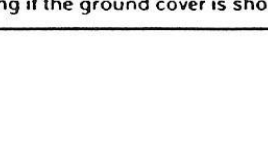
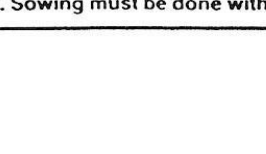
TECHNIQUES AND TIMING FOR PASTURE RENOVATION

There are two basic techniques for pasture renovation, i.e. rejuvenation and renewal. Rejuvenation is the most efficient technique and involves sowing the seeds of new and virile pasture grasses and legumes direct into existing pasture and have them gradually take over the old strain, without causing loss of production due to cultivation. This technique is known as 'stitching in'. Renewal involves a total herbage control system, i.e. spray off old pasture with a wide spectrum herbicide before drilling.

Local knowledge is invaluable when determining which techniques to use and when to use them. The best time for pasture renovation will vary by region, and is largely governed by the temperature and weather that follow. In temperate climates with mild winters the autumn is best and tropical climates the spring is the best time when the tropical grasses have not recovered from their winter dormancy. In arid climates the time is directly before or after summer rains.

The basic requirement for seed germination is a warm moist seed bed. The aim should be to sow the seed at a time when there is sufficient moisture for quick germination, and little likelihood for later drought. The Aitchison opener/coulter however will promote germination in much drier soils than any other known coulter when used correctly.

SIMPLE RULES TO FOLLOW FOR SUCCESSFUL PASTURE RENOVATION

TIME ↓	TEMPERATE PASTURELAND		TROPICAL PASTURELAND	ARID PASTURELAND
	REJUVENATION	RENEWAL		
	Autumn or spring	Autumn	Spring	Before or after monsoonal rain
	1.  Graze heavily	 Graze heavily	 * Mow with flail type mower	
	2.  Seed with Seedmatic	 Spray with total spectrum herbicide. Include insecticide	 Spray for insects. Can use light herbicide rate to control competition	
3.  Seed with Seedmatic	 Seed with Seedmatic	 Seed with Seedmatic	 Seed with Seedmatic	
4.  Graze lightly	 Graze lightly	 Graze lightly	 Graze lightly	
5.  Graze lightly	 Graze lightly	 Graze lightly	 Graze lightly	

* An application of a total spectrum herbicide may replace mowing if the ground cover is short. Sowing must be done within 10 days.

MICRO INSECTICIDE GRANULES IN PASTURES

In New Zealand where grass grub is a problem, excellent control has been attained with the use of Gesapon, Dasanit, Dysiston, Mocap, and Lindane in control of this pasture destroyer. Normal rates applied on the pasture surface can be as high as 30 kg/ha (26 lb/acre) but when sown in the soil and hence away from neutralizing effect sunlight, rates as low as four and five kg/ha can be used. If unexposed to sunlight these chemicals can remain effective in the soil as long as three months, thus killing generations of pupae as they emerge. This factor is an important feature with the Seedmatic.

Watch for slugs. Slugs like the moist groove produced by the wing blade opener. If slugs become a problem (eating seeds or seedlings underground), a suitable pellet should be used.

DIRECT SEEDING OF FEED CROPS AND ARABLE CROPS WITH SEEDMATIC AND GRASSFARMER.

We are not in a position to give total formal recommended seeding rates, chemical usage and fertiliser recommendations because of circumstance that the Seedmatic will be used in will be so varied and diverse that some misunderstanding can occur.

Refer to the checklist and ALWAYS confirm with known successful CT operators as well as your local seed specialist and chemical company representatives. Remember that with this technique the environment is not as predictable as with cultivated soils, and take the precaution of using insecticide or increased fertiliser if there should be any element of doubt.

Seeding programs are wide and varied and it is best to look at rotation that starts with a legume or feed crop followed by a grain crop, followed by another feed crop and so on. Heavy pasture into grain can be disappointing, but grain after legume or brassica is outstanding.

Here are just a few possibilities:

Brassicas, Turnips, Swedes, Legumes – Can be sown spring (for winter feed) or again in autumn for later winter early spring feed. The technique is to blanket spray the entire area and ensure that seeding depths are shallow. A light bar harrow pulled over the seeding areas is beneficial. Use fertiliser and see your chemical company specialist with regard to the correct insecticide to use.

Winter Feed Oats – This can be seeded direct into pasture in early autumn. Herbage control should be carried out.

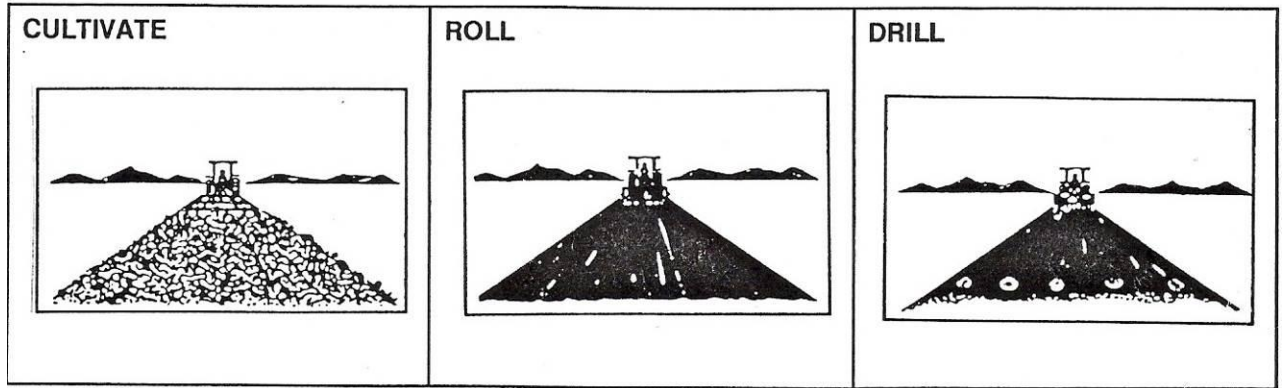
Wheat and Barley – Direct seeding in spring or autumn depending on variety. Always spray out pasture with approved herbicide (may not be necessary after brassica). Always sow with fertiliser.

Lucerne, Alfalfa – Sow in spring after spraying out entire area with Roundup or similar herbicide. It is always a good idea to do a soil test to ensure that the solid pH is satisfactory for plant establishment. Also it is necessary to ensure that the seeds are treated with inoculants to guarantee their germination and nodulation. Apply fertiliser and ensure that spraying and baiting for insects is carried out – particularly for control of slugs and snails.

Green-feed Maize – Carry out in spring and the same rules apply as with wheat, barley and oats. You may wish to seed in 30 or 45 cm (12" or 18") rows and the technique for achieving that is shown under the section **SPECIAL PURPOSE SEEDING** shown later in this booklet.

SOWING IN CULTIVATED SOILS

As this is a tined implement with a direct drill type opener, it is important to treat all seed beds as you would a pasture. With a conventional drill one works up the soil into a fine seedbed so that a broad boot type coulters will pass through leaving the seed behind the soil tilth. With the Seedmatic, cultivate the soil to destroy existing vegetation but before seeding, roll the seedbed thoroughly and then drill the seeds required into this rolled seedbed. Good germination results will occur.



We recommend that a chain harrow be towed behind the seed drill or roll the field after seeding has been completed.

SETTING UP THE SEEDMATIC FOR USE

Connecting drill to tractor; 3 Point Linkage Models.

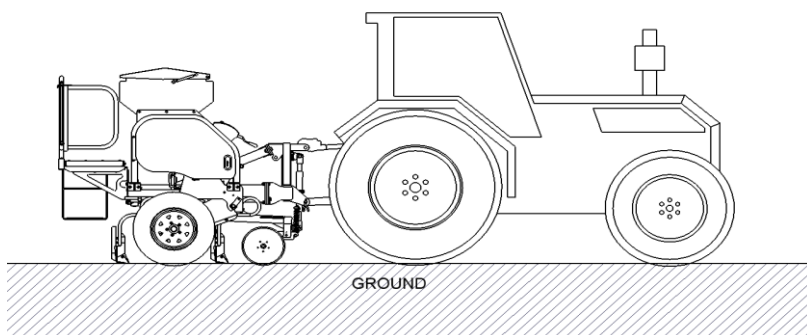
Connect the Seedmatic drill to the rear 3-point linkage of your tractor. Adjust the tractor's top link arm so the drill frame is sitting parallel with the ground.

Adjust the tractor's sway chains to give 75-100mm lateral movement.

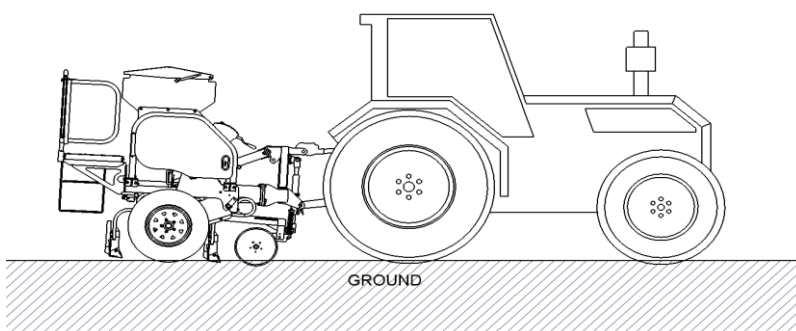
The tractor's hydraulics should be set to allow the drill to float over the terrain unimpeded by the movement of the tractor.



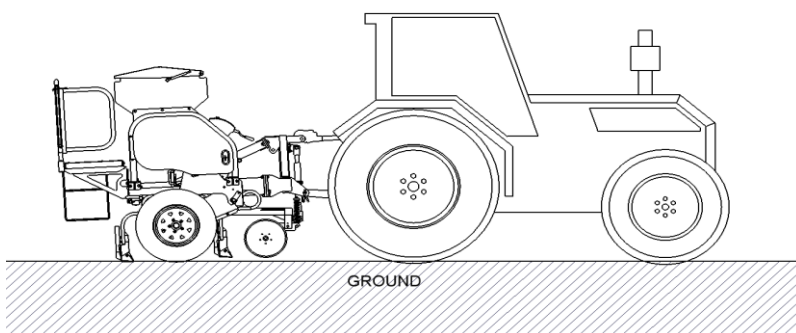
**Correct
Seedmatic
sitting level**



**Seedmatic
leaning to
far forward**



**Seedmatic
leaning to
far back**



Connecting drill to tractor; Trailed Models.

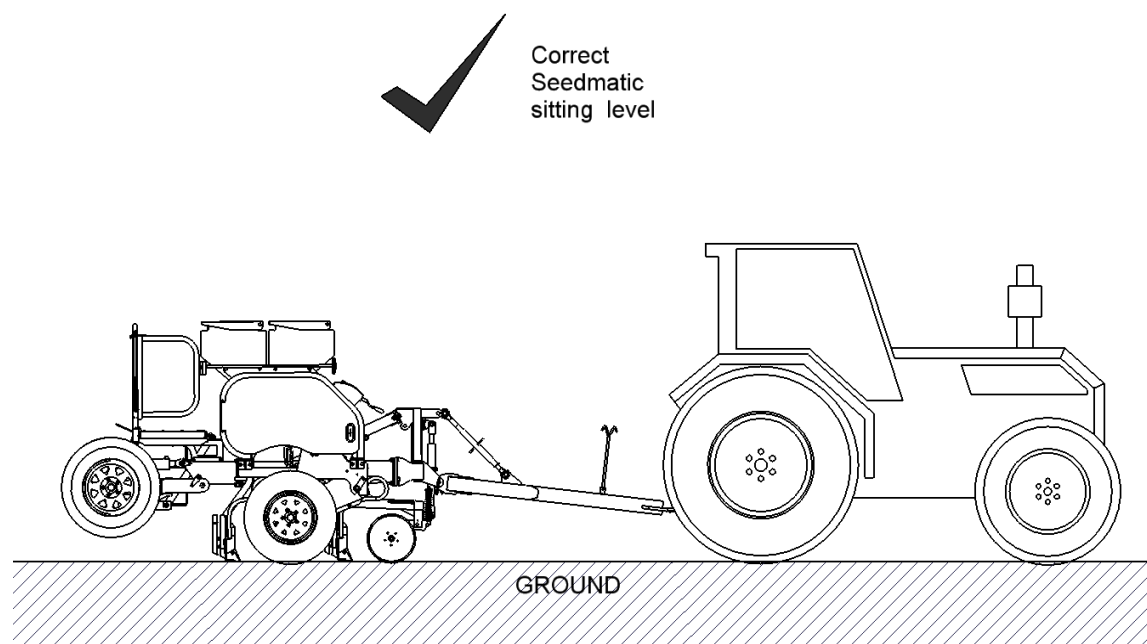
Connect the Seedmatic Drawbar to the tractor's Towbar. Make sure you use a safety clip on the drawbar pin.

If you are to travel on public roads ensure you fit a **SAFETY CHAIN** between the Seedmatic Drawbar and the tractor's Towbar.

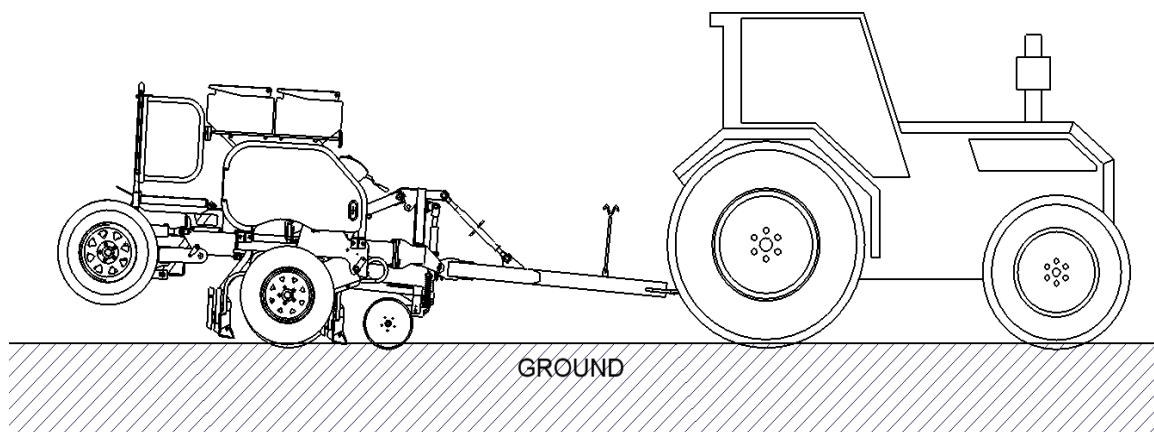
Connect the Seedmatic's hydraulic hoses to one of the tractor's hydraulic banks. This hydraulic system is used to raise and lower the rear transport wheels on the Seedmatic.

When seeding the rear transport wheels should be fully raised clear of the ground.

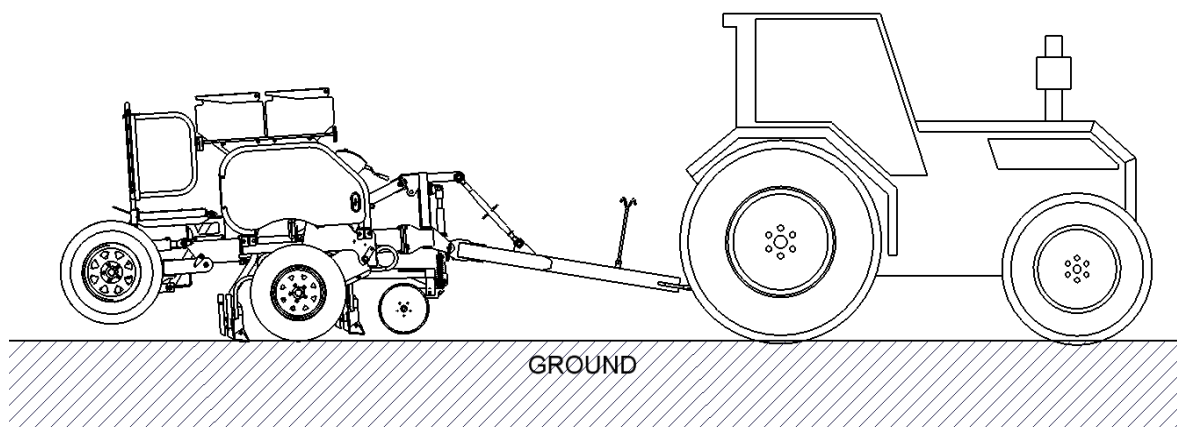
Adjust the Drawbar top link to ensure that the Seedmatic drill frame is sitting parallel with the ground.



X Seedmatic
leaning to
far forward



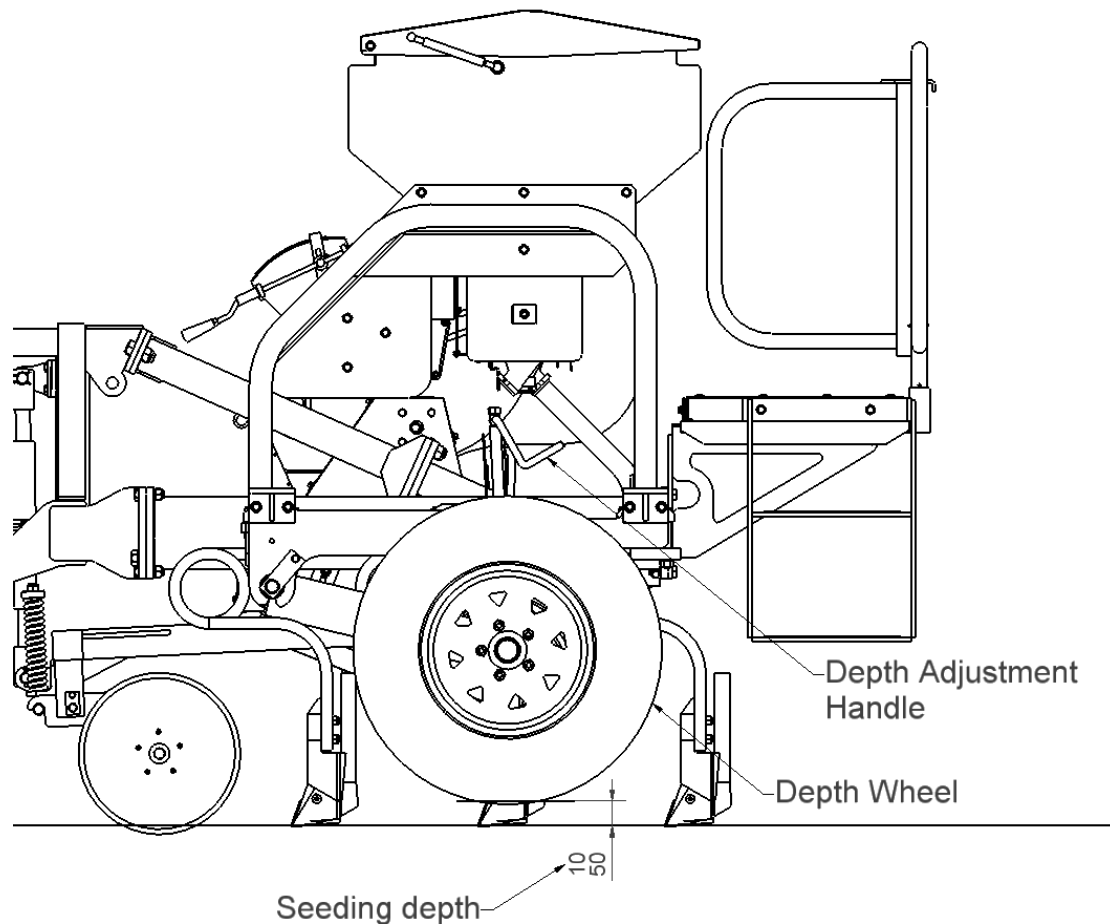
X Seedmatic
leaning to
far back



Set the depth wheels.

With the Seedmatic sitting on hard flat ground, the depth wheels should be 10-50mm clear of the ground, depending on your desired seeding depth. There is an adjustment handle at the top of each depth leg, use this to adjust the legs.

There is a depth gauge at the top of each depth leg, check that both depth legs are set at the same height



When the drill is in work, the best way to check your seeding depth is to have a scratch around in the seed slots behind the drill and check where the seeds are placed in the soil. Make the appropriate adjustments as needed.

At times we recommend that a chain harrow or roller is towed behind the Seedmatic to help cover the seed slots. This will help prevent bird strike and can aid in seed germination.

DISC COULTER KITSET

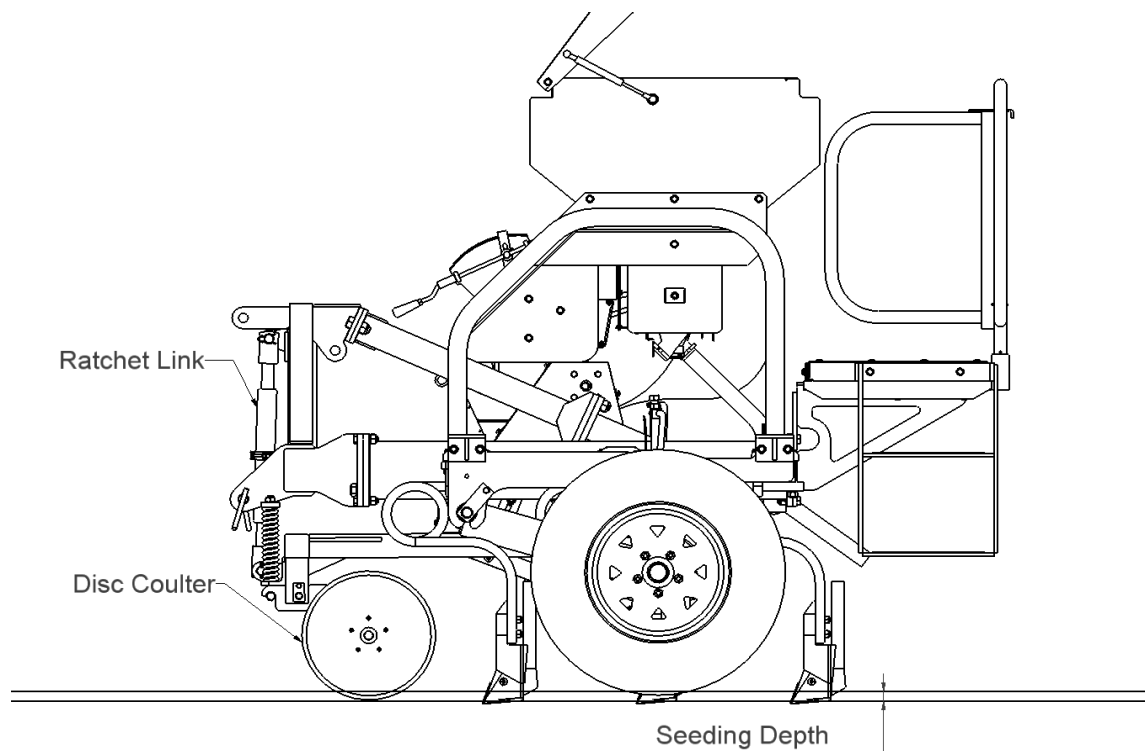
The Disc Coulters are designed to help cut trash/residue or stubble that may be present in the field. This trash/residue or stubble is cut into short lengths by the Disc Coulters, allowing the trash/residue or stubble to flow more efficiently past the Seed Openers resulting in fewer blockages. The Disc Coulters will also help prevent surface tearing in existing pastures when under sowing.

Setting up the Disc Coulters Kit

If your Seedmatic drill has a Disc Coulters Kit, it is important that this is adjusted correctly to get the best performance from your drill.

The Disc Coulters are usually set to the same depth as the Seed Openers or slightly shallower depending on ground conditions. To adjust the depth of the Disc Coulters turn the Ratchet Link attached between the disc coulters bar and the Headstock frame. In very hard ground conditions the Disc Coulters may hold-up the drill preventing the Seed Openers being at the correct depth, if this occurs reduce the depth of the Disc Coulters.

In very soft/damp ground the Disc Coulters may roll up a strip of turf, if this occurs reduce the depth of the Disc Coulters.

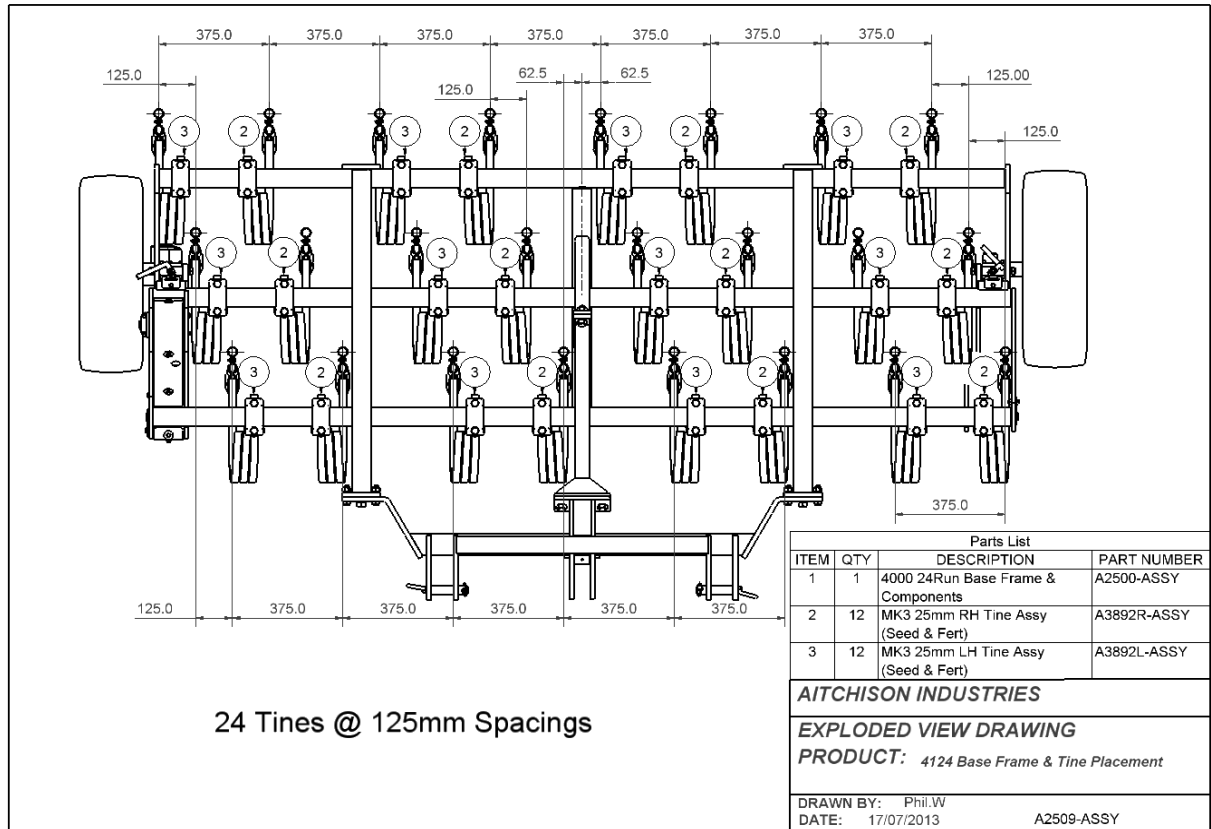


Tine Alignment

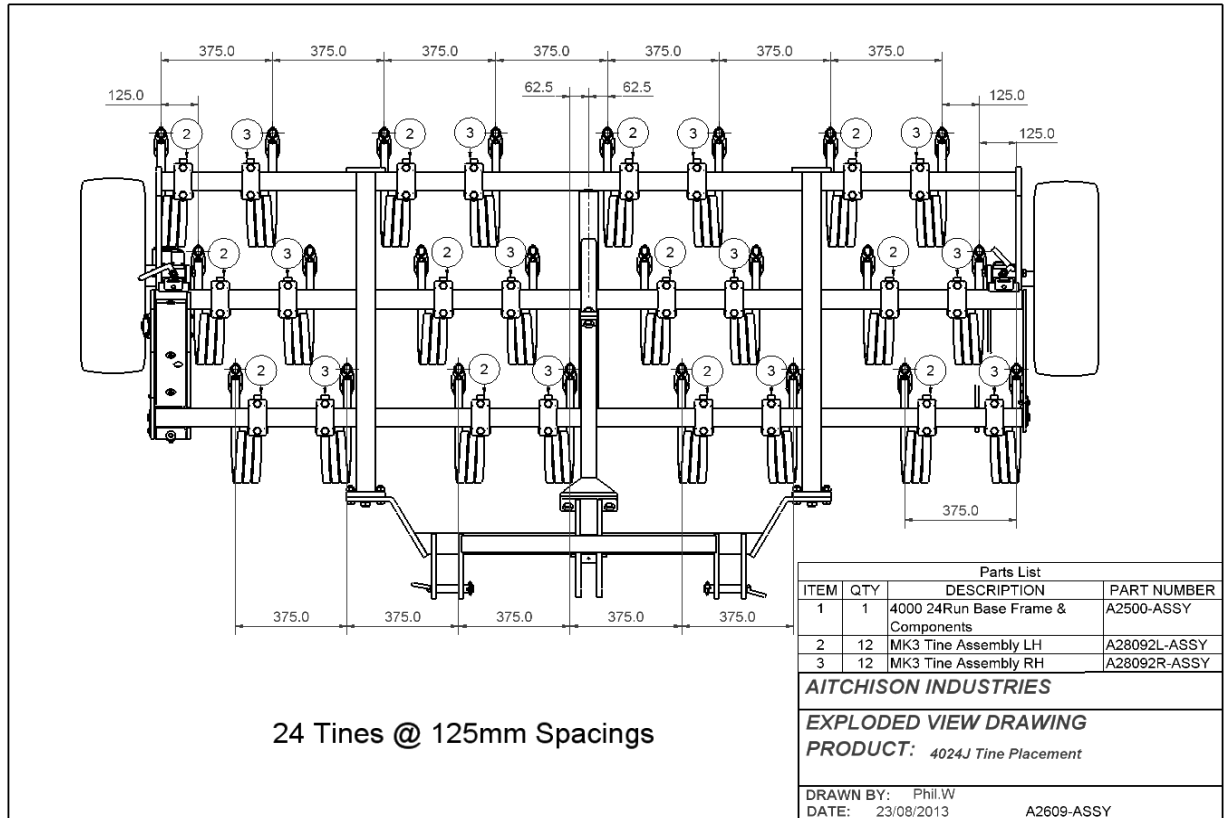
To get the best from your Disc Coulters kit check that the Seed Openers are tracking behind the Disc Openers. Failure to do so could result in severe tearing of your pasture. To make these adjustments loosen the top Tine Clamp and slide the Tine along the mainframe tool bar until alignment is achieved.

TINE PLACEMENT

4124CT Tine Placement



4024J Tine Placement



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 can 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 Housing and dusted off the powder.

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.

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 could affect the seeding rate.

Example

Temperate charts were calibrated for Ryegrass. These were calibrated at an ambient temperature of 18°C. Moisture content of the seed was 14%. The 1000 seed count was 2 grams and the seeds were approx. 6.6mm long by 1.5mm wide. There were no coatings or dressings and was cleaned of gin trash.

We recommend 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 seeding rates.

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 of the small seeds could significantly increase.

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.

REMEMBER: ALWAYS CALIBRATE BEFORE SEEDING!!!

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.

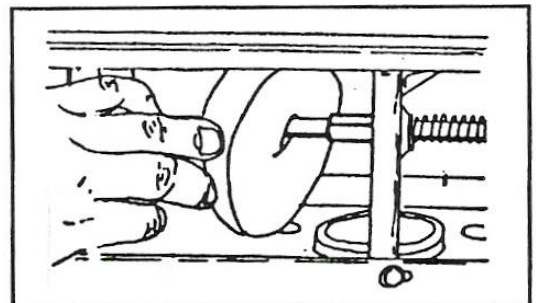
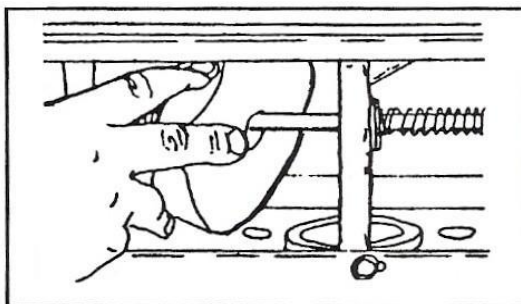
OAT WIPER AND BEAN SPACER

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.

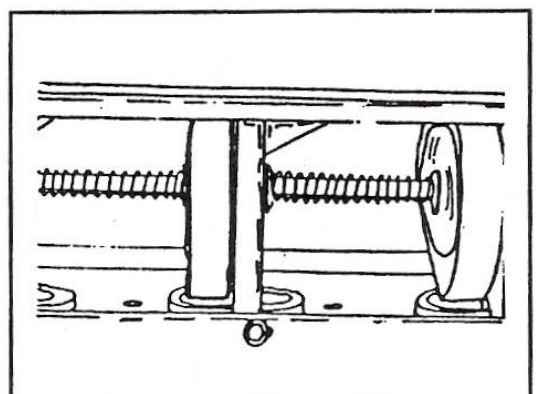
To fit the spacers follow these instructions:



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.

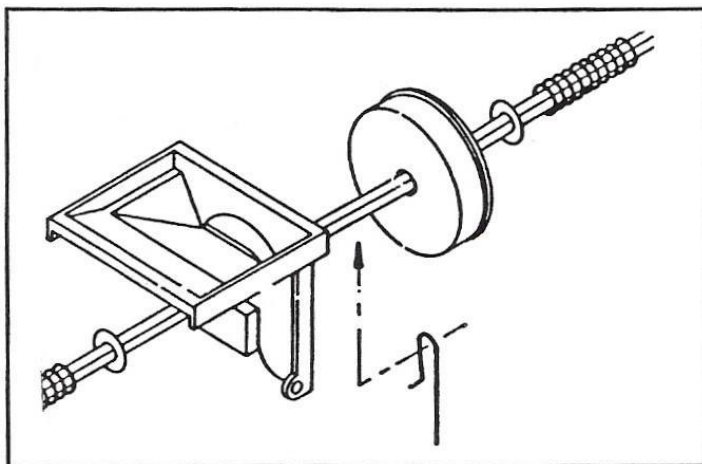


OAT WIPER (Optional)

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.



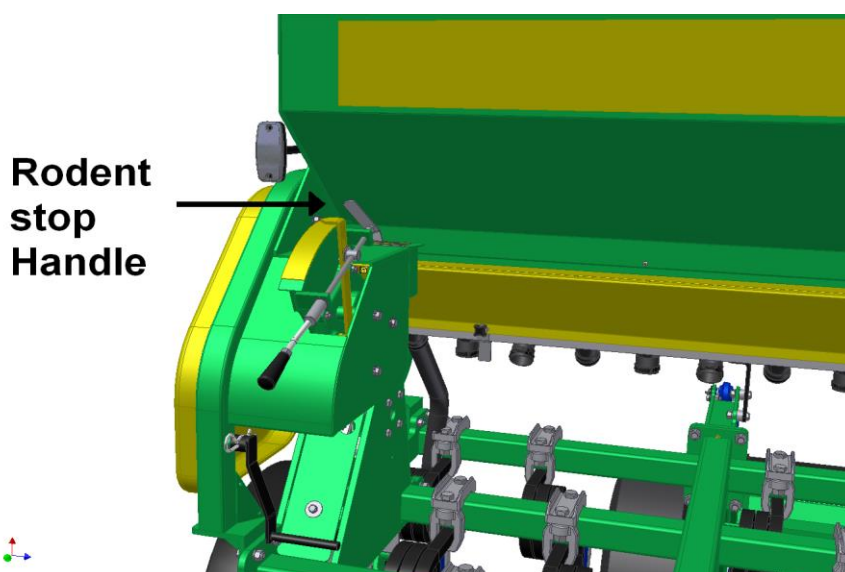
RODENT DANGER

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

Your SEEDMATIC drill is equipped with a "Blankoff Tray". This blankoff tray is located under the seed hopper, between the seeder units and the seed dropper hose. The purpose of this blankoff tray is to help prevent rodent damage to the sponge pads. 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.



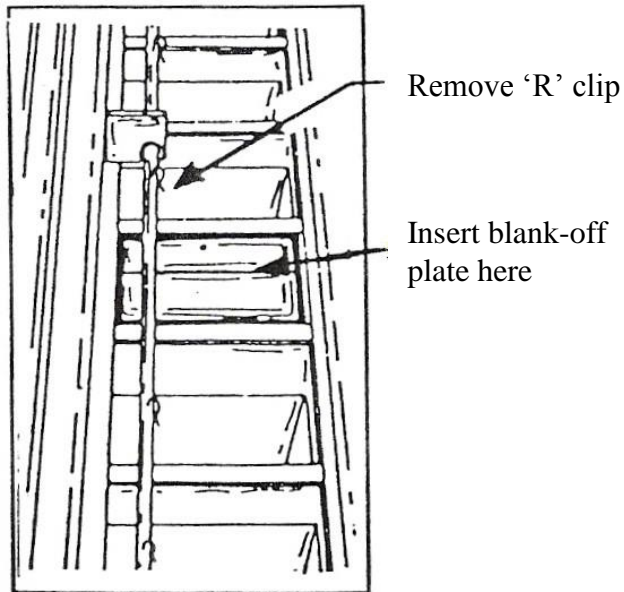
Move Handle towards the centre of drill to close off.

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).

Using Blank Off Plates

If the blank off plates are used – this drill is calculated for rates of 125mm 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.

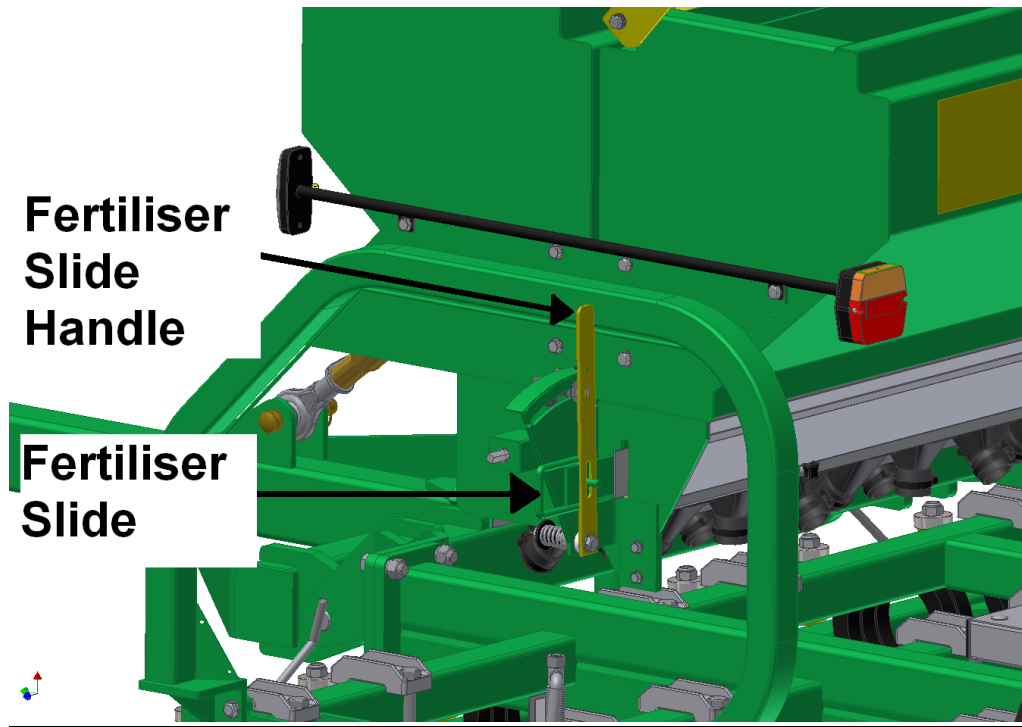


THE FERTILISER SYSTEM

Different types of fertiliser may vary slightly.

The fertiliser rate is verified by using the same calibration procedure as used to calibrate the seed.

Fertiliser Slide Handle is to be left in the fully open position.



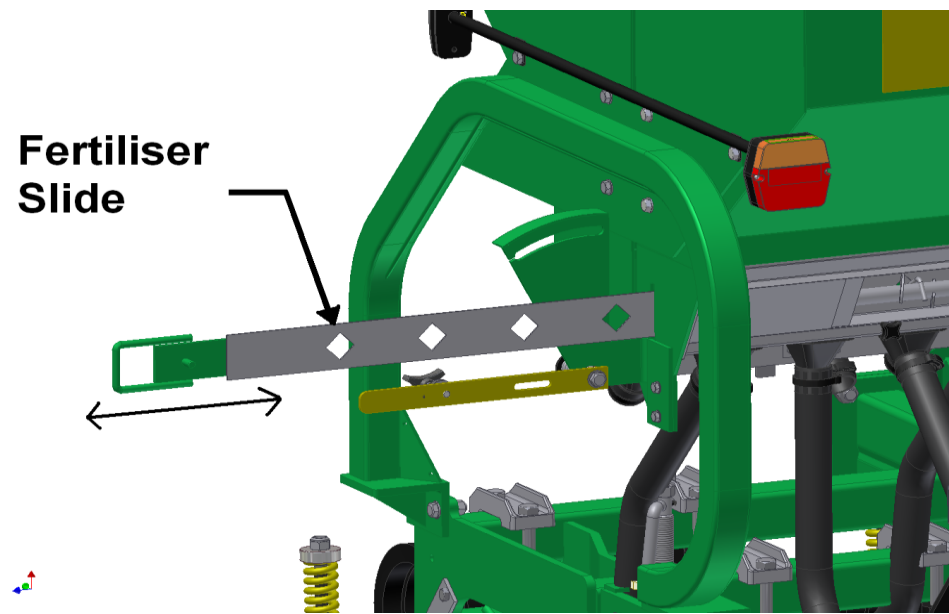
MAINTENANCE AND CLEANING THE FERTILISER HOPPER

The fertiliser hopper should be thoroughly cleaned after use and potential rust areas brushed down with diesel. The fertiliser slide may be easily removed without tools as shown below.

Remove the slide at the end of your planting season to ensure it can not corrode in place.

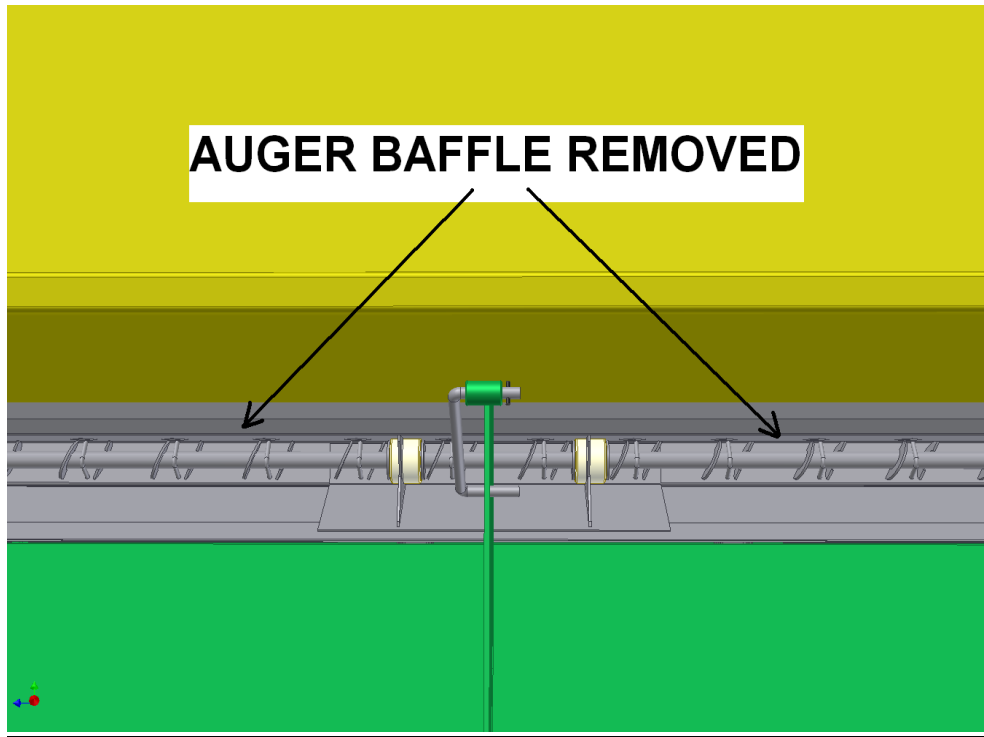
To empty or clean the fertiliser hopper, Firstly use the Empty Hopper function on your Monitor to instigate the Hopper emptying its contents down the tubes. A large sheet or concrete area will be needed to collect all the product. After this is completed remove the Auger Baffle and the rear Inspection Panels and brush out any remaining fertiliser.

FERTILISER SLIDE REMOVAL

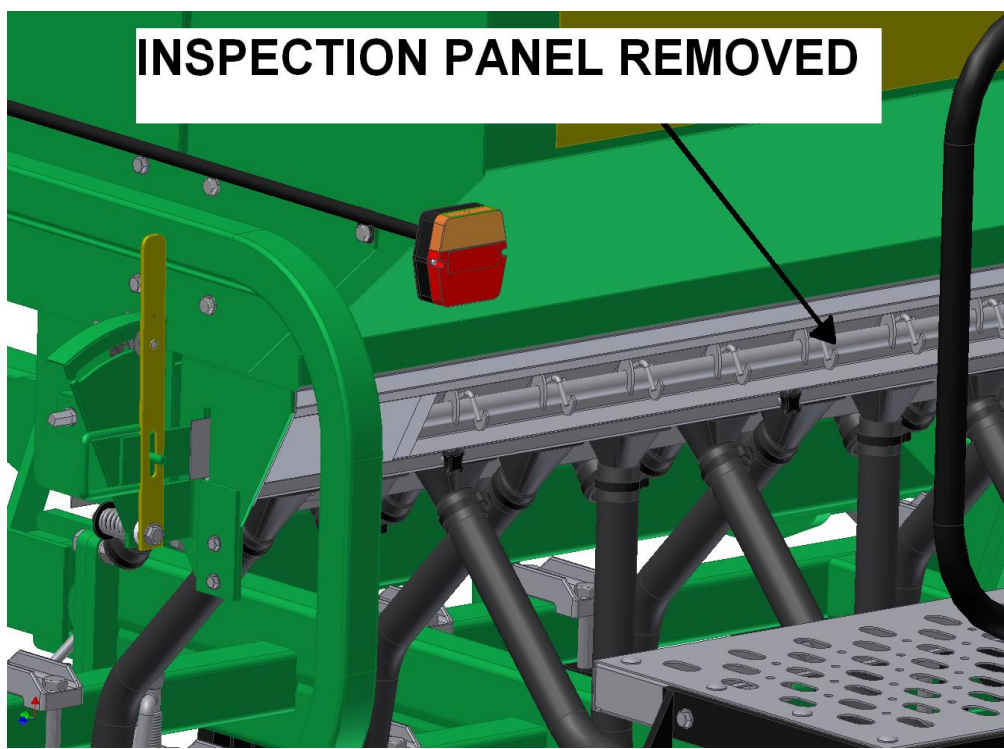


AUGER BAFFLE REMOVED

Looking down inside the fertiliser hopper.



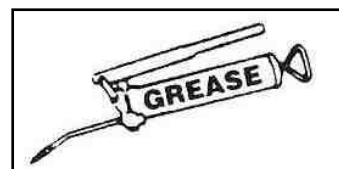
REAR INSPECTION PANELS REMOVED



GENERAL MAINTENANCE

Machines Grease Points:

- 1 per Disc Coulter Pod assembly.
- Depth Leg assembly
- Seed Shaft drive.
- Fertiliser Shaft drive.
- Rear Transport assembly.



Greasing location points are labelled on the drill with the “Grease” sticker (shown above). Chains should be kept lubricated and should be removed at least once each season and thoroughly cleaned and oiled.

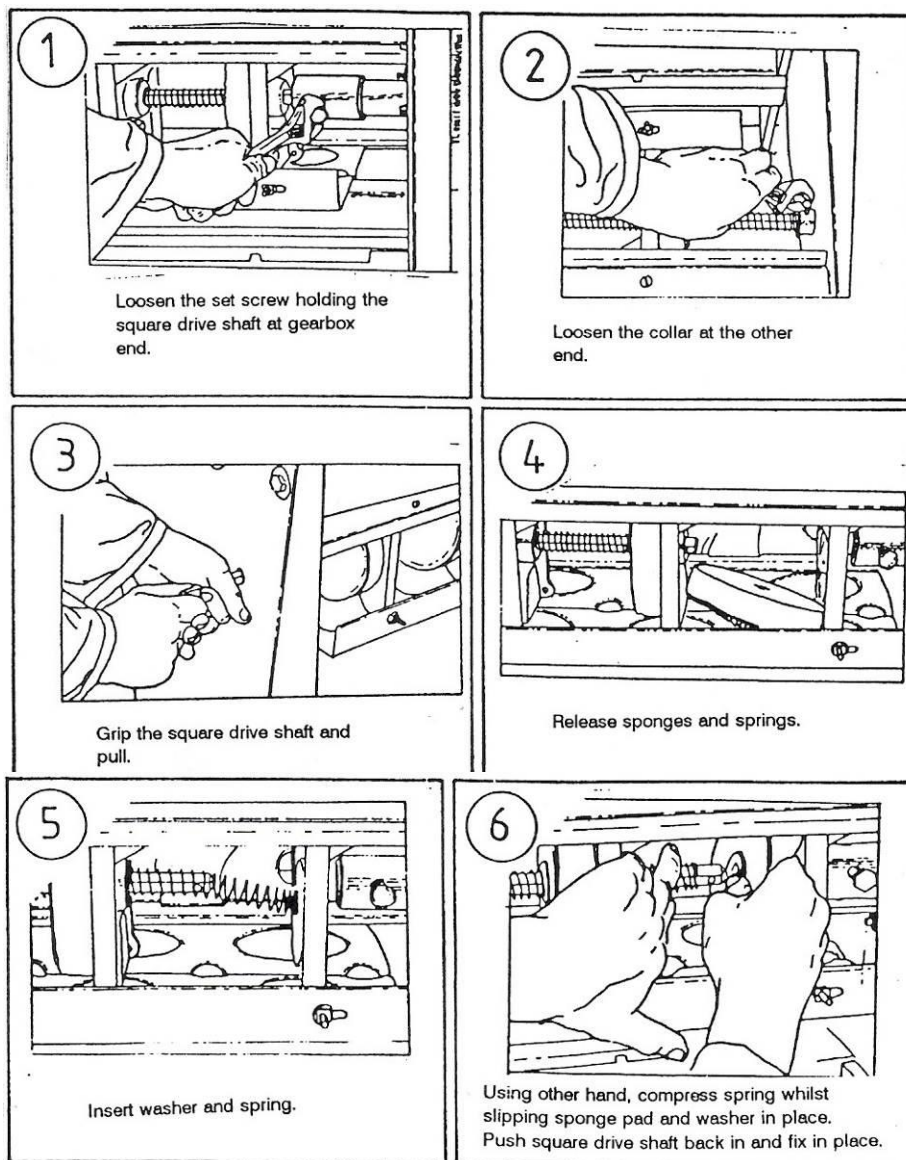
CARE OF THE SPONGE PADS

The sponge pads are easily accessible for maintenance and cleaning by removing the inspection panel at the bottom of the seed hopper. The seed hopper should be cleaned thoroughly after use as vermin show little respect for a sponge pad if there is seed behind it.

To empty the hopper of seed, Firstly use the Empty Hopper function on your Monitor to instigate the Hopper emptying its contents down the tubes. A large sheet or concrete area will be needed to collect all of the product. Push the pads away from the seeder units to check the sponges are free of seeds. Do not leave seed lodged between the pad and seeder unit, as this will distort the pad giving erratic sowing. The sponge pads are replaced as shown below.

REPLACEMENT OF SPONGE PADS

Removing:



Inserting:

SEASONAL STORAGE

The drill should be thoroughly cleaned and lubricated and stored out of the weather. Look for any unusual wear and remedy the cause. If this requires parts it is best to order them well in advance of the next sowing season. Check all nuts and bolts for tightness. Adjust the depth wheels so the weight of the drill is on the tines and not on the tyres.

TINE CLAMPS

The 4000 Series Seedmatic is fitted with 65mm Saddle Clamps, these clamps have been designed to stop the tines from “walking” along the tool bars.

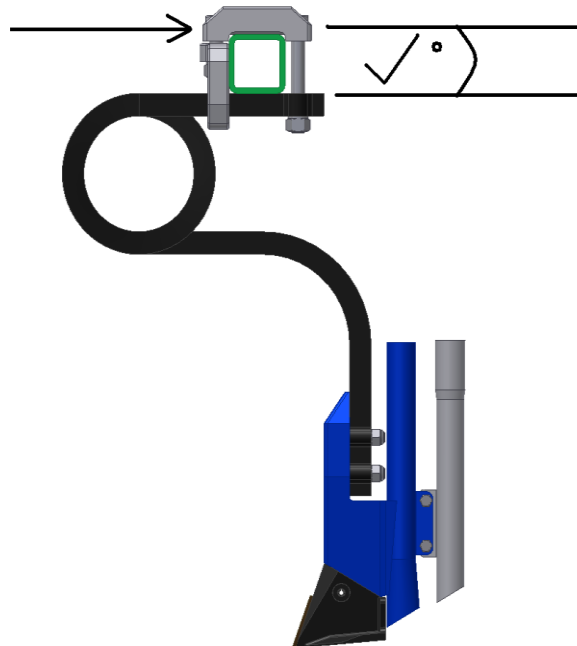
Some care needs to be taken when fitting these new clamps.

When fitting or adjusting, ensure that the M16 bolts are tightened evenly so both the Saddle Clamp and the straight leg of the tine are parallel to each other.

The M16 bolts should be tightened to 200Nm (147ftlb) Maximum.

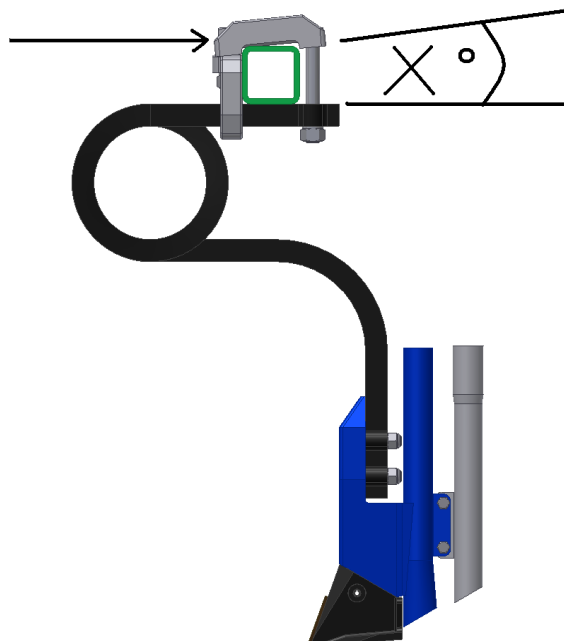
CORRECT FITMENT

Bolts tightened evenly, Saddle Clamp parallel with Tine Leg



INCORRECT FITMENT

Front bolt too tight, Saddle Clamp leaning forward



AITCHISON

SEEDMATIC

Electric Drive Head Unit

Warnings 2

AITCHISON

Settings

Job Info:

Reese Engineering Ltd. | Aitchison

General

Menu

0	km/h	0	ha/hr	0	ha	HOLD
Speed		Area Rate		Area		Lift

Paused

Seed Hopper

Menu

-	25	+	0	kg/ha	0
	kg/ha		Rate		Shaft
25	35		0	ha	Enter ↩
Rate1	Rate2				
SEED			Area		

Stopped

Fert Hopper

Menu

-	150	+	0	kg/ha	0
	kg/ha		Rate		Shaft
100	150		0	ha	Enter ↩
Rate1	Rate2				
FERT			Area		

Job Manager

Introduction:

The Aitchison E-Drive Head Unit provides a simple and convenient means of monitoring and controlling your seed drill. The interface has been designed to efficiently convey all relevant information on the home screen. All functionality is at most a few clicks away, with all the key features directly accessible from the home screen.

The interface features an integrated touch screen keyboard that automatically appears when required. The advanced warning system lets you know when a fault occurs and provides useful information on how to resolve it. The home page has been designed to provide easy navigation by using a tile based layout and high contrast. The operational state of each hopper on the machine can be seen at a glance using informative colour coded indicators.

It is important to become familiar with the interface before using it in the field. This guide describes the interface layout, navigation and how to operate the Aitchison E-Drive System.

It is recommended that all new users go through a dry run to become familiar with operating the Drill.

Overview:

Settings: This button opens the settings panel. This is used to navigate to: Units, Calibrate, Empty Hoppers , User Manual and Advanced Settings. See **Settings**.

Warnings: This button opens the “Warnings” window where all current warnings are listed. This can be clicked to stop the Buzzer. See **Warnings**.

Job Info: This button shows/hides the “Job Info” form. It is used to set and edit the current job. See **Job Info**.

Dashboard: This section shows the systems monitored data and the control widgets. This is categorised into clusters of related information: General, Seed Hopper and Fert Hopper. See **Dashboard**.

Job Manager: This button opens/closes the “Job Manager” form. This is used to start a new job, save the current job or view/edit old jobs. See **Job Manager**.

The screenshot shows the Aitchison E-Drive Head Unit interface. At the top, there is a green header bar with the Aitchison logo and a 'Settings' button. Below the header, there is a 'Job Info' section showing 'Reese Engineering Ltd.' and 'Aitchison'. The main dashboard is divided into three sections: General, Seed Hopper, and Fert Hopper. Each section has a 'Menu' button and a 'Paused' or 'Stopped' status indicator. The General section shows speed (0 km/h), area rate (0 ha/hr), and area (0 ha). The Seed Hopper section shows a rate of 25 kg/ha and a rate of 35 kg/ha. The Fert Hopper section shows a rate of 150 kg/ha and a rate of 100 kg/ha. The interface also includes a 'Warnings' button at the top left and a 'Job Manager' button at the bottom left.

General		Menu	
0	km/h	0	ha/hr
0	ha	0	ha
Speed	Area Rate	Area	Lift

Seed Hopper		Menu	
25	kg/ha	0	kg/ha
Rate	Rate	0	ha
25	35	0	ha
Rate1	Rate2	Area	Enter
SEED		Area	

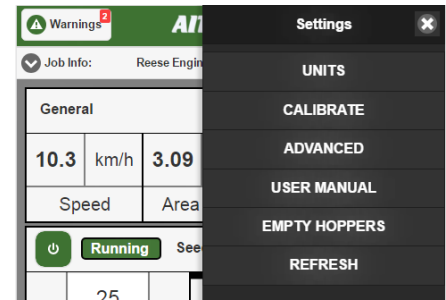
Fert Hopper		Menu	
150	kg/ha	0	kg/ha
Rate	Rate	0	ha
100	150	0	ha
Rate1	Rate2	Area	Enter
FERT		Area	

Settings:

This menu is used to set the display units, start calibration, access advanced system settings, view this user manual Empty hoppers and refresh the interface.

This menu is accessed from the home page by clicking the top right “Settings” button.

See: **Units, Calibration, Advanced Settings** and **Empty Hoppers**.



Warnings:

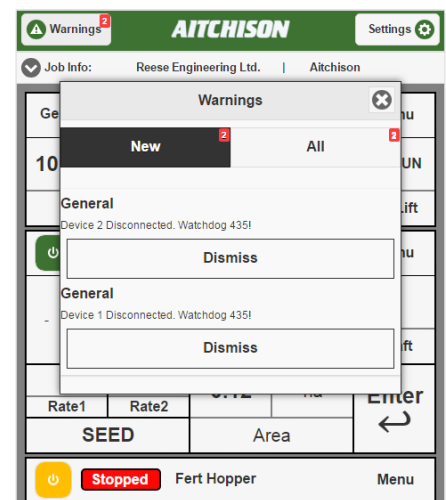
This window shows all active warnings and will pop up automatically when a new warning starts.

To stop the buzzer, click anywhere within this window.

Example Warnings: Device x Disconnected; Shaft Drive Chain Fault.

This window is accessed from the home page by clicking the top left “Warnings” button.

Any tile associated with a warning will change colour to light red and can be clicked to view the warning message. When a device disconnects, the associated tiles will turn grey.



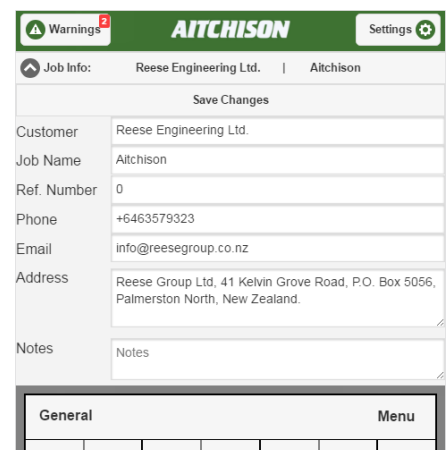
Job Info:

This is where all information for the current job is viewed and edited. Edits need to be saved using the “Save Changes” button to take effect. The Customer and Job Name are displayed on the drop down button.

When an input field is selected a keyboard will pop up from the bottom of the screen with a specialised layout.

The “Job Info” button on the home screen is used to show and hide this window.

See: **Keyboard**.



Job Manager:

This menu is used to save the current job, create a new job and view/edit saved jobs. All saved jobs are listed under the search bar and can be clicked to view the information page (See **Job Log**). The list tile shows: [Job Index, Customer, Job Name]. The search bar can be used to find old jobs using the information on the list tile. Jobs must be saved before a new job is started, otherwise progress will be lost.

The “Job Manager” button is used to show and hide this window on the home screen.



Job Log:

This window shows the “Job Info” and report for the job selected using the “Job Manager”. Using this window you can: view, edit, download, delete or copy job information. Edits made to the job information need to be saved by clicking the tick [top left] or canceled using the cross [top right]. The **Download** button saves the job information and report to a connected USB flash drive under: “:\aitchison\reports”. If the device is not available, plug it back in and wait 10s. The **Delete** button deletes the job from the job manager. The **Copy** Button copies the job information to the current “Job Info” menu on the home screen.

The report shows the area covered for each set rate, for each hopper and provides a summary with total area covered by the hopper and the estimated applied product weight.

See: **Job Info** and **Job Manager**.

The screenshot shows a 'Job Log' window with a title bar containing a checkmark and a close button. Below the title bar are three buttons: 'Download', 'Delete', and 'Copy'. The main area is divided into two sections: 'Job Info' and 'Report'.

Job Info:

Job Name	Example Job
Ref. Number	0
Customer	Reese Engineering Ltd.
Phone	+6463579323
Email	info@reeseengineering.co.nz
Address	Reese Group Ltd, 41 Kelvin Grove Road, P.O. Box 5056, Palmerston North, New Zealand.
Notes	Notes

Report:

Fert Hopper : DAP

- Covered 0.7 ha at a rate of 100 kg/ha

Seed Hopper : Rye Clover

- Covered 0.7 ha at a rate of 25 kg/ha

Dashboard:

The dashboard has been designed to efficiently convey information to the operator. A tile based layout organises related information into clusters, making it easy to navigate and interact with.

This model has three clusters: General, Seed Hopper and Fert Hopper. The Seed Hopper and Fert Hopper clusters provide monitor and control for the respective hoppers and are fundamentally the same. They will be referred to collectively as “the Hopper Cluster”.

The Menu button on the top right corner of each cluster will open a properties window for the contained tiles.

See: **General Cluster**, **Hopper Cluster**.

The screenshot shows the Dashboard with three main clusters: General, Seed Hopper, and Fert Hopper.

General Cluster:

General				Menu	
10.3	km/h	3.09	ha/hr	0.12	ha
Speed		Area Rate		Area	
				Lift	

Seed Hopper Cluster:

Running		Seed Hopper		Menu	
-	25	+	25	kg/ha	8
				Rate	
				Shaft	
25	35	0.12		ha	Enter
Rate1	Rate2				
SEED		Area			

Fert Hopper Cluster:

Stopped		Fert Hopper		Menu	
-	150	+	0	kg/ha	0
				Rate	
				Shaft	
100	150	0		ha	Enter
Rate1	Rate2				
FERT		Area			

General Cluster:

Shows the general system information:

- **Speed:** Shows the ground speed when the lift is in the “Run” position.
- **Distance:** Shows the total distance travelled while running the seed or fert hoppers.
- **Area:** Shows the total area covered while running the seed or fert hoppers.
- **Lift:** Shows “Run” when the machine is in the ground and “Hold” when it is not.

The distance and area tiles are automatically cleared when a new job is started. They can also be manually cleared using the cluster menu.

The screenshot shows the General Cluster with the following information:

General				Menu	
0	km/h	0	m	0	ha
Speed		Distance		Area	
				Lift	

Hopper Cluster:

Provides information and controls to operate the Hopper. The hopper cluster header has two additional features on the top left: Power and Status.

- **Power:** Used to enable and disable rate control for the hopper. Turns green when on and amber when off.
- **Status:** Shows the operational state of the hopper. This will indicate when the rate control is: “Running” (**green**) when drilling; “Stopped” (**red**) when switched off and “Paused” (**amber**) when the lift is in the hold position.

		Stopped		Fert Hopper		Menu	
-	150	+	0	kg/ha	-		
kg/ha			Rate		Shaft		
100	150	0		ha	Enter		
Rate1		Rate2		DAP		Area	

The hopper cluster tiles are used to set the application rate as well as monitor: the perceived rate, the shaft speed and the area covered by the hopper.

- **Rate:** This shows the perceived application rate in the selected units. The bar at the top shows the motor speed as a proportion of the motors top speed. Adjust the ground speed (within reason) to keep the motor comfortably within 5-90%. Change the gearing and re-calibrate if required to maintain the set rate.
- **Shaft:** This tile shows the shaft speed in RPM and is used to detect drive chain faults. When the shaft speed doesn't match the expected shaft speed: the buzzer will start, a Warning message will popup describing the potential fault and the tile will change colour to a light red. The warning can be accessed directly by tapping on the tile or through the warnings tab (See **Warnings**).
- **Area:** This tile shows the total area covered by the hopper while running. It is automatically cleared when a new job is started and can be manually cleared using the cluster Menu.
- **Rate Controller and Enter:** The rate controller tile is used to select the application rate and the Enter button tile is used to submit the changes. The rate can be changed and submitted at any time. The rate can be changed by using the -/+ buttons or using the popup keyboard by clicking on the number field. Holding the + or - button will increment or decrement the rate quickly. The number field background will be white when the value matches the set rate and will change to yellow if it does not match. To set the number field back to the set rate, click on the units field below the number. The product name set during calibration can be seen at the bottom of the Rate Controller tile (See **Calibration**).
There are two preset rates above the product name. These can be loaded by clicking on them and set by long pressing for 2-3 seconds.

25	kg/ha
Rate	

0
Shaft

0	ha
Area	

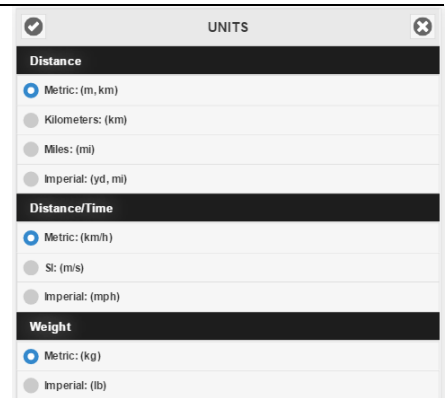
-	25	+
kg/ha		
25	100	
Rate1	Rate2	
Rye Clover		
-	150	+
kg/ha		
100	150	
Rate1	Rate2	
DAP		
Enter		

Units:

This window is used to customise the displayed units and can be set at any time. These units will also be used when generating the job reports.

Accessed using the “Settings” Menu.

See: *Settings*.



The screenshot shows a settings window titled "UNITS" with a close button in the top right corner. The window is divided into three sections: "Distance", "Distance/Time", and "Weight". Each section has a list of unit options with radio buttons to select the preferred unit.

Category	Unit Options
Distance	<input checked="" type="radio"/> Metric: (m, km) <input type="radio"/> Kilometers: (km) <input type="radio"/> Miles: (mi) <input type="radio"/> Imperial: (yd, mi)
Distance/Time	<input checked="" type="radio"/> Metric: (km/h) <input type="radio"/> SI: (m/s) <input type="radio"/> Imperial: (mph)
Weight	<input checked="" type="radio"/> Metric: (kg) <input type="radio"/> Imperial: (lb)

Calibration:

The Aitchison E-Drive Calibration provides an easier and faster means of setting up your Seed Drill compared to the traditional calibration process. This section describes how to set up and complete the calibration process.

Important: Only calibrate one hopper at a time.

Preparation: Load the product, Prime the Hoppers and set up the product catchment.

Calibration can be done using any number of adjacent outlets. For the best result, use all available outlets. It is recommended to use a minimum of 5 outlets.

- **Load the Product:** Load the product over the catchment outlets for calibration.
- **Prime Hoppers:** Press and hold the desired prime button until the product flows freely. Forgetting to prime the hoppers before calibration will result in a false application rate.
- **Product Catchment:** Place catchment under the desired calibration outlets. This can be done using a number of methods, including:
 1. Detach the black hosing from the coulter tube and place them into bags or containers.
 2. Place bags or containers directly under the tines.
 3. Seed Only: Detach and place the yellow calibration trays under the seed metering units. This method makes it easy to calibrate using all available outlets and will result in the shortest calibration time.

Take care not to spill dispensed product during the calibration process as it will affect the measured weight.

Keep in mind that product may flow through outlets adjacent to those loaded for calibration. Do not use the product from the overflow outlets when weighing for calibration.

Run Calibration:

1. **Enable Calibration Mode:** Click on the “CALIBRATE” button in the “Settings” Menu. Enter the Product Names for each Hopper. Then press the “Start” button. A blank “calibrating” page will appear.
Note: An instructions tab can be found at the bottom of the window.
2. **Start Calibration:** To start/pause calibration, press the products prime button on the machine. The calibration will stop itself automatically when complete and the interface will buzz for 1s. The interface will update, showing a weight and outlets input field for the calibrated hopper. The second hopper can be calibrated once the buzzer signals completion.

Calibrate Setup

Start

Seed Hopper

Product Name
SEED

Fert Hopper

Product Name
FERT

- If the buzzer does not sound when the motor stops and the interface is not updated, quick press the prime button.
- Only calibrate one Hopper at a time.
- If the catchment is nearing overflow, pause the calibration using the prime button, collect the product and continue with an empty catchment.
- Take note of the weight units. This can be set in the “UNITS” menu (See **Units**).

3. **Collect and Weigh the Product:** Remember to “TARE” scales before weighing.
4. **Set Calibration Weight and Number of Outlets:** Go to the user interface and enter the total measured weight and the number of collection outlets used.
Press tick [top left] button to complete the calibration process. To cancel at any time, press the cross [top right] button.

Calibration Mode

Seed Hopper

Weight	Weight	kg
Outlets	24	
Motor Pulses	32102	
Gearing	546.2	

Calibrating...

Advanced Settings:

The advanced settings menu is used for system configuration. This is where the wheel circumference can be set and the dedicated on screen keyboard can be enabled/disabled.

At the top of the advanced settings menu, a tile cluster shows the: Top Speed, Total Seed Area and Total Fert Area for the lifetime of the system. This is not resettable and will track over the lifetime of the interface.

This menu is found using the settings menu at the top right of the home screen.

See: **Settings, Keyboard.**

Empty Hoppers:

This feature allows the operator to run the motors without holding down the prime buttons. It is enabled and disabled by selecting the “Empty Hoppers” button in the top right “Settings” menu of the home page. Once enabled, each motor can be started or paused by pressing and releasing the corresponding prime button on the machine.

See: **Settings.**

Refresh:

This restarts the user interface and has no effect on the operation of the Machine. It is found in the top right “Settings” menu on the home page.

See: **Settings.**

Keyboard:

An on screen keyboard is shown when an input field is selected. The keyboards layout will be customised for the input field (i.e. “qwerty” for text and “numpad for” numbers). This keyboard can be disabled/enabled in the “Advanced” settings menu.

See: **Advanced Settings.**

Quick Start Guide:

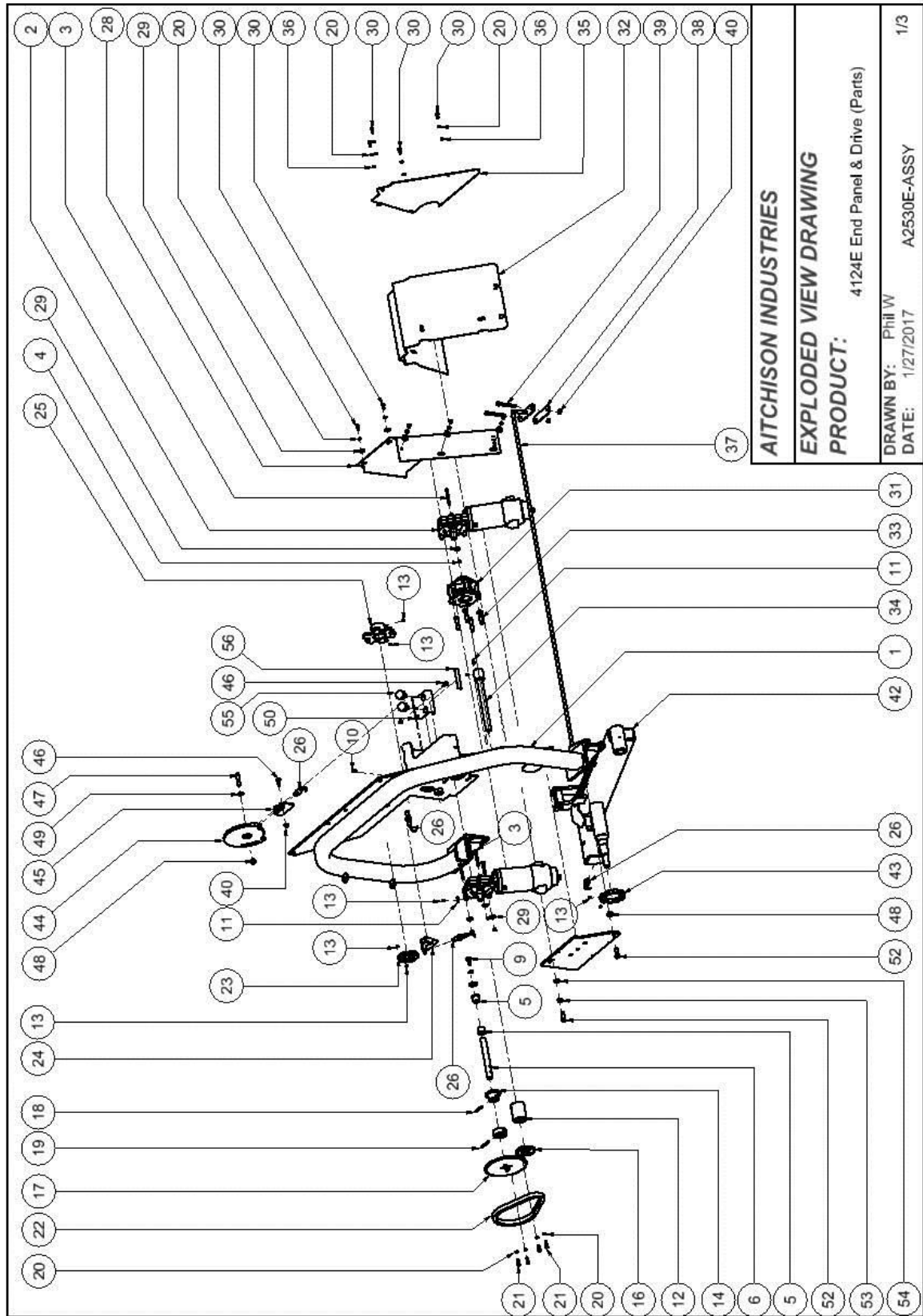
This section provides a brief description of how to operate the E-Drive Head Unit for a new Job instance.

1. **Check connections and mounting.**
2. **Switch on:** using the green switch on the right side of the monitor. The boot sequence will take approximately 1.5 minutes.
3. **Start Interface:** Hit the “Start” button on the bottom of the screen.
4. **Create a New Job:** Open the Job Manager and start a new job by clicking “New Job”. Wait for the interface to load. Important: *Make sure the previous job was saved using the “Save Job” button as unsaved information will be lost when the new job is created.*
5. **Set Job Info:** Open the Job Info Dropdown menu and fill in the relevant information. If applicable, copy information from a previous job (See **Job Log**). Once finished, hit the “Save Changes” button to commit the changes. Close the dropdown menu.
Note: *To find this job in the future, it is important to give the Job a Name or set the customer.*
6. **Calibrate:** For the best results, it is important to calibrate often.
For a detailed description see **Calibration**.
7. **Set Application Rate:** Input the desired rate and press enter.
To see how this is done, see **Hopper Cluster: - Rate Controller and Enter**.
8. **Start Seeding:** To start seeding, press the hoppers power button.
The drill should be ready to use.
9. **System Check:** Ensure the perceived rate matches the seed rate and that the motor is not being driven out of bounds. Adjust ground speed appropriately or change gearing if required.
10. **Finish:** when finished, power off the hoppers and save the job.

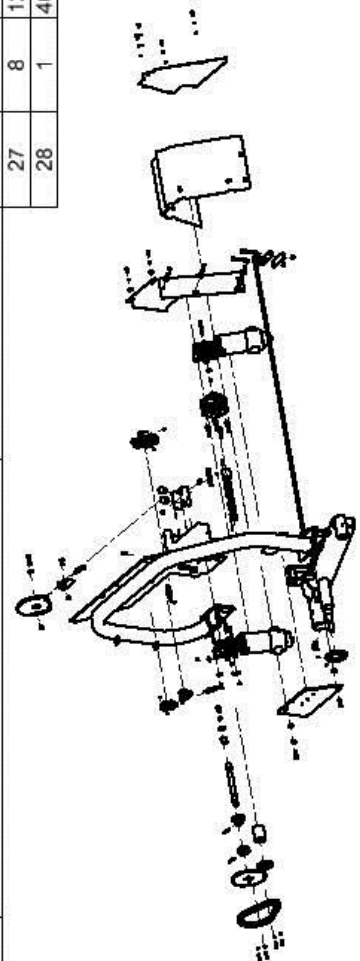
General Information:

- The application rate can be changed at any point and will update as soon as the “Enter” button is pressed.
 - The application can be stopped at any time by either pressing the hopper “Power” button, or lifting the machine.
 - Jobs can be saved at any time, as many times as you would like.
 - The system can be switched off at any time using the green power switch on the right side of the Monitor without loss of data. The system will boot back into the last session.
-

PARTS BREAKDOWN



Parts List				Parts List			
ITEM	QTY	DESCRIPTION	PART NUMBER	ITEM	QTY	DESCRIPTION	PART NUMBER
29	9	6mm Fender Washer	9022	1	1	4124 Electric Drive End Panel Assembly	A2531E
30	9	M6 x 16 Bolt	8208H	2	2	320W 12VDC Motor & Gearbox with Encoder	A2529E
31	1	4000 Electric Fert Motor Mount Assembly	A2598E	3	4	M6 x 60 Bolt	8202H
32	1	4000 Electric Fert Motor Cover Assembly	A2582E	4	4	M6 Nyloc Nut	9109
33	4	M10 x 45 Bolt	8404H	5	2	FMB 2021.5DU	A3710-52
34	1	4000 Electric Fert Motor Shaft Assembly	A2581E	6	1	4000 Electric Drive Lay Shaft	A2530E-01
35	1	4000 Electric Fert Motor Cover Plate	A2530E-05	7	1	M10 Fender Washer	9037
36	4	6mm Flat Washer	9023	8	1	10mm Spring Washer	9041
37	1	4000 Electric Drive Loom Rail Assembly	A2599E	9	1	M10 x 20 Bolt	8419H
38	1	4000 Electric Drive Loom Centre Mount	A2599E-03	10	1	M6 Grease Nipple 45 Degree	9324
39	2	M8 x 80 Bolt	8316H	11	2	320W 12VDC Motor Drive Key	A2530E-02
40	4	M8 Nyloc Nut	9105	12	1	65mm Keyed Sprocket Boss	A2530E-03
42	1	4000 Electric Drive Leg Assembly	A2505E	13	8	M6 x 8 Grub Screw	8204
43	1	4000 Electric Drive Wheel Sender	A2530E-06	14	1	13T Sprocket 1/2" Pitch Boss 20ID	A2339-01
44	1	4000 Electric Drive Master Switch Sender	A2530E-07	15	1	Sprocket Boss 3000 ZP	A2343-01
45	1	4000 Electric Drive Master Switch Mount	A2530E-08	16	1	17T Plate Sprocket 1/2"	A2347
46	2	M8 x 20 Bolt	8311H	17	1	38T Plate Sprocket ZP	A2344
47	1	M10 x 40 Bolt	8416H	18	1	6 x 40 Roll Pin	9251
48	2	M10 Nyloc Nut	9142	19	1	6 x 50 Roll Pin	9262
49	1	10 mm Flat Washer	9042	20	17	6mm Spring Washer	9021
50	1	Prime Switch Mount	A2530E-09	21	8	M6 x 20 Stainless Steel Cap Screw	8207S
51	1	240 x 160 x 90 Box Heat Sink Plate	A2530E-10	22	1	4124E Seed Drive Chain	ZCH1/2 @ 650mm
52	2	M10 x 30 Bolt	8415H	23	1	4000 Electric Drive Fert Sender	A2530E-04
53	1	M10 Nut	9141	24	1	4000 Electric Drive Fert Sensor Mount Assembly	A2579E
54	1	10mm HD Flat Washer	9040	25	1	4000 Electric Drive Seed Sender Assembly	A2533E
55	2	Switch Push Waterproof MOM SPST 5A DC	A2530E-11	26	4	12mm NPN NC Proximity Sensor	A4677-02
56	1	Decal "SEED FERT"	D4025	27	8	12mm NPN NC Proximity Sensor Nut	A4677-03
				28	1	4000 Electric Seed Motor Cover Assembly	A2532E



AITCHISON INDUSTRIES

EXPLODED VIEW DRAWING

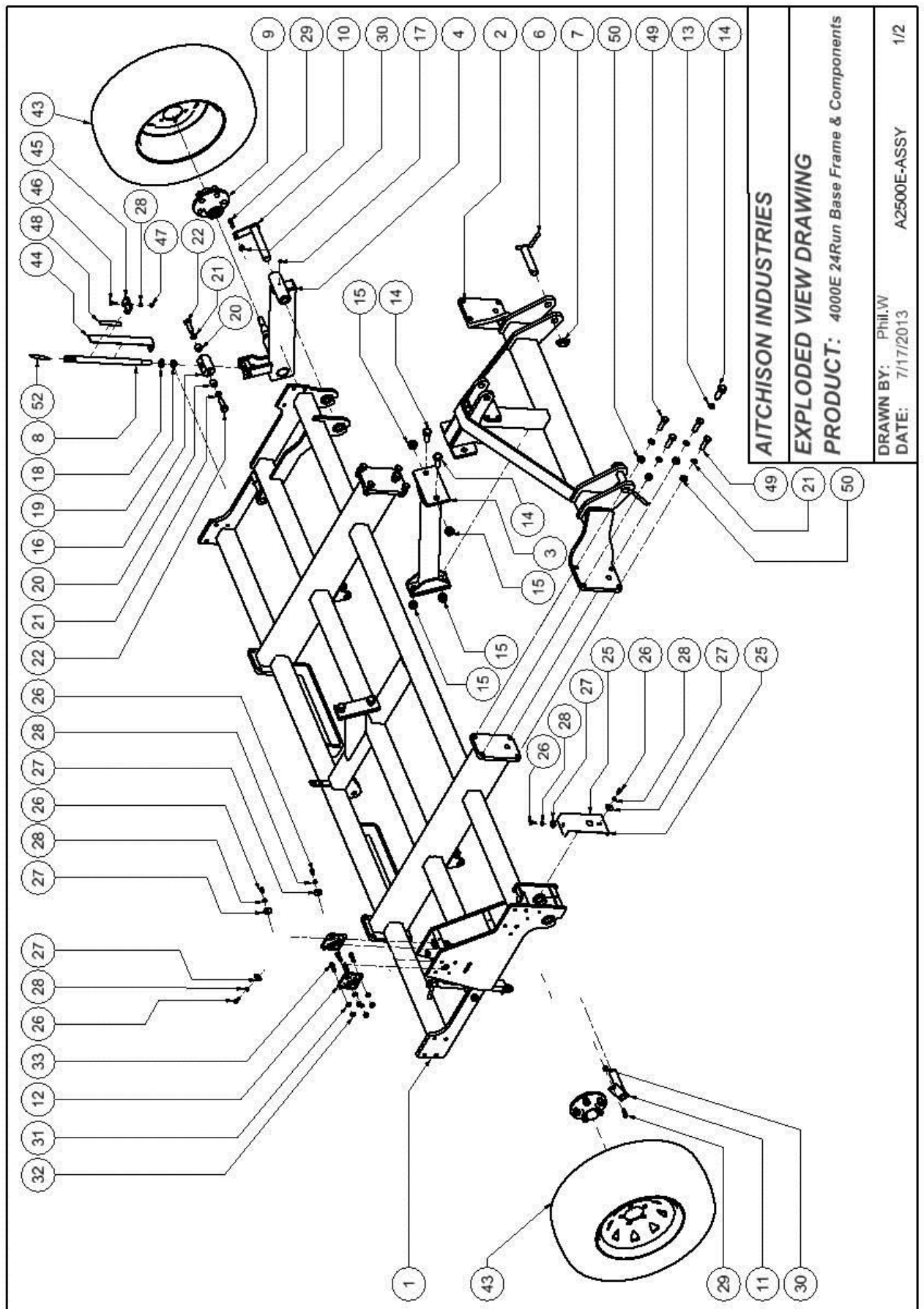
PRODUCT:

4124E End Panel & Drive (Numbers)

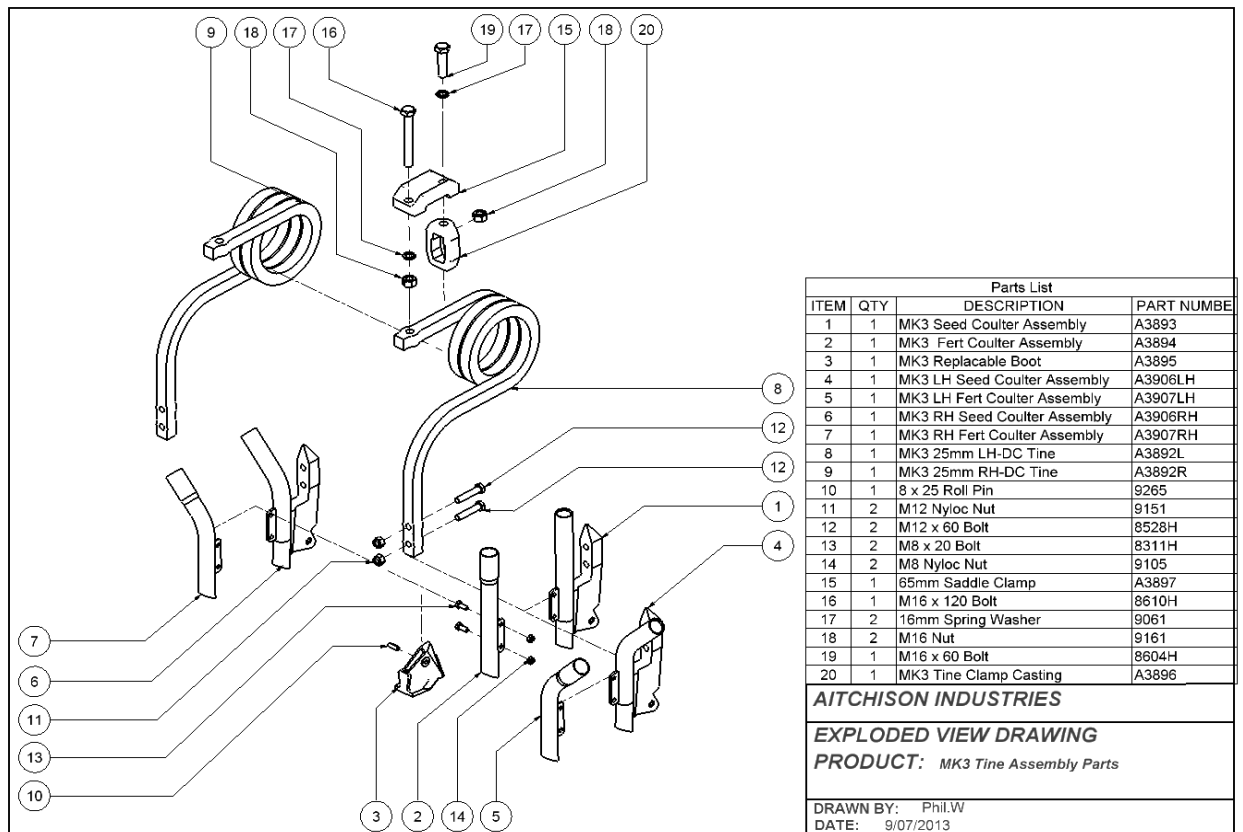
DRAWN BY: Phil W
DATE: 1/27/2017

A2530E-ASSY

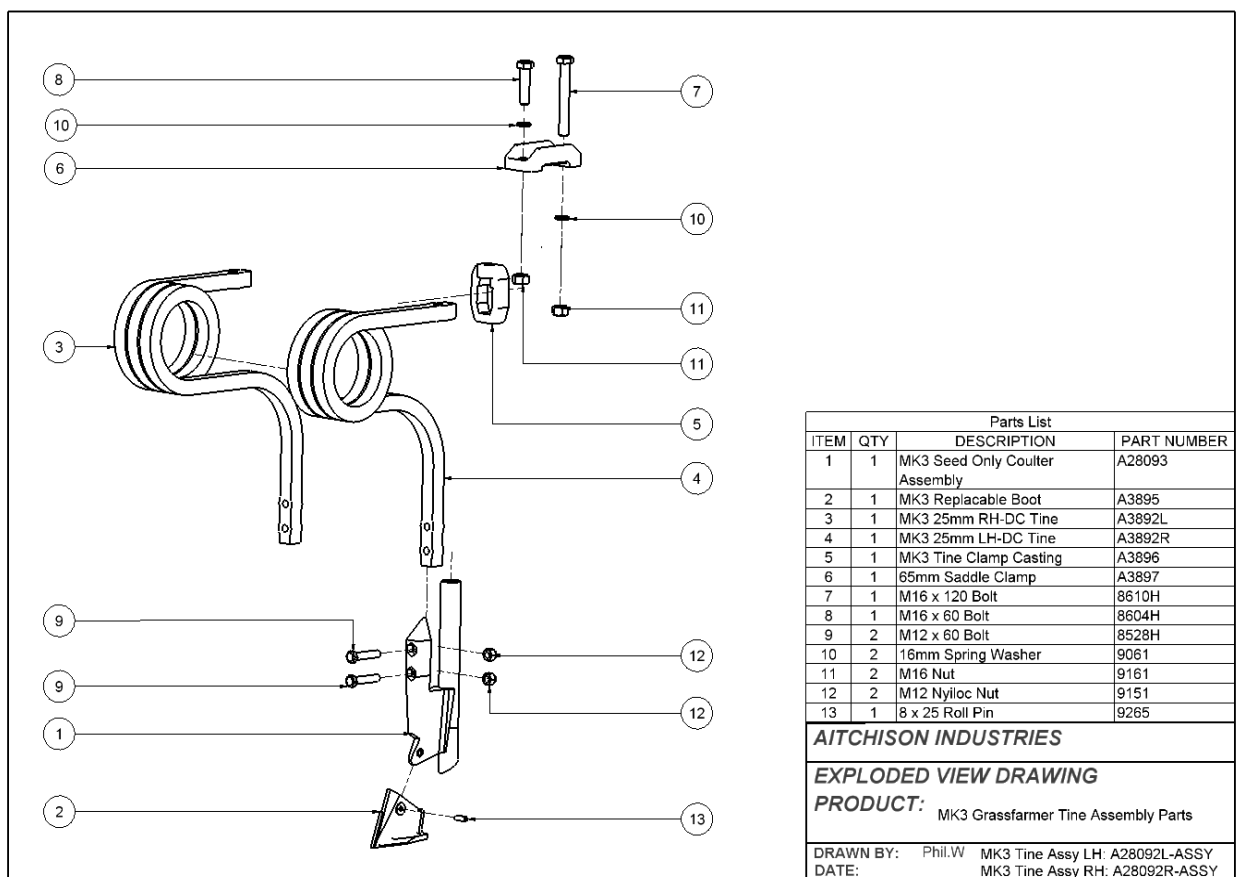
2/3

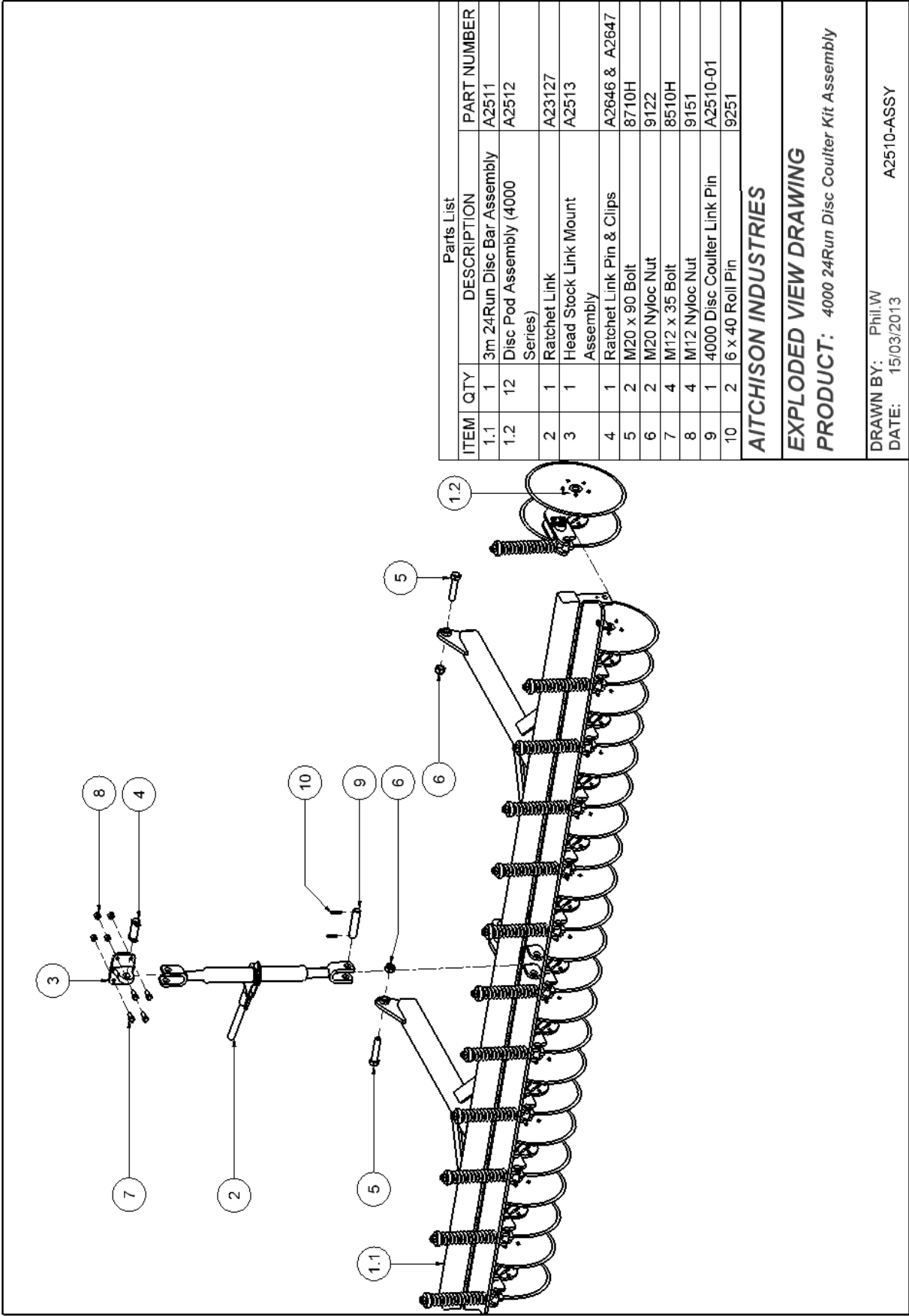


SEED & FERTILISER MODELS



SEED ONLY MODELS





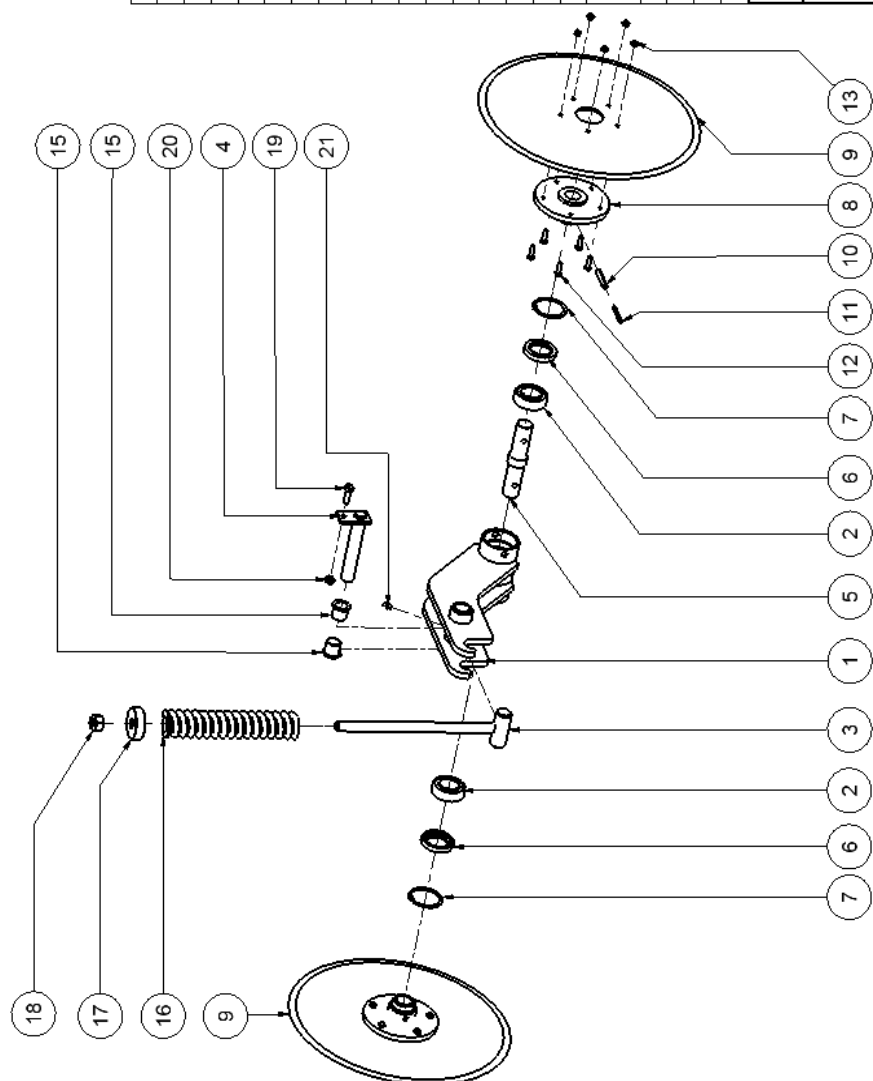
Parts List		
ITEM	QTY	DESCRIPTION
1.1	1	3m 24Run Disc Bar Assembly
1.2	12	Disc Pod Assembly (4000 Series)
2	1	Ratchet Link
3	1	Head Stock Link Mount Assembly
4	1	Ratchet Link Pin & Clips
5	2	M20 x 90 Bolt
6	2	M20 Nyloc Nut
7	4	M12 x 35 Bolt
8	4	M12 Nyloc Nut
9	1	4000 Disc Coulter Link Pin
10	2	6 x 40 Roll Pin

AITCHISON INDUSTRIES

EXPLODED VIEW DRAWING

PRODUCT: 4000 24Run Disc Coulter Kit Assembly

DRAWN BY: Phil.W	A2510-ASSY
DATE: 15/03/2013	



Parts List			
ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Disc Pod (4000 Series)	A2514
2	2	6205 Bearing	9212
3	1	Threaded Rod	A23120
4	1	Disc Pod Pivot Pin Assembly	A24982
5	1	4000 Series Disc Axle	A2512-01
6	2	35 x 52 x 8 Seal	A28046-14
7	2	52mm Internal Circlip	32
8	2	Disc Mounting Flange	A28081-02
9	2	14" 5 Stud Disc (Plain)	A3022-04
10	2	8 x 45 Roll Pin	9266
11	2	5 x 45 Roll Pin	9254
12	10	M6x20 Bolt	8205H
13	10	M6 Nyloc Nut	9109
15	2	FMB 2021.5DU	A3710-52
16	1	Disc Coupler Spring	A23122
17	1	Spring Retaining Washer (4000 Series)	A2512-02
18	1	M16 Nyloc Nut	16A
19	1	M8 x 25 Bolt	8305H
20	1	M8 Nyloc Nut	9105
21	2	M6 Grease Nipple Straight	9323

AITCHISON INDUSTRIES

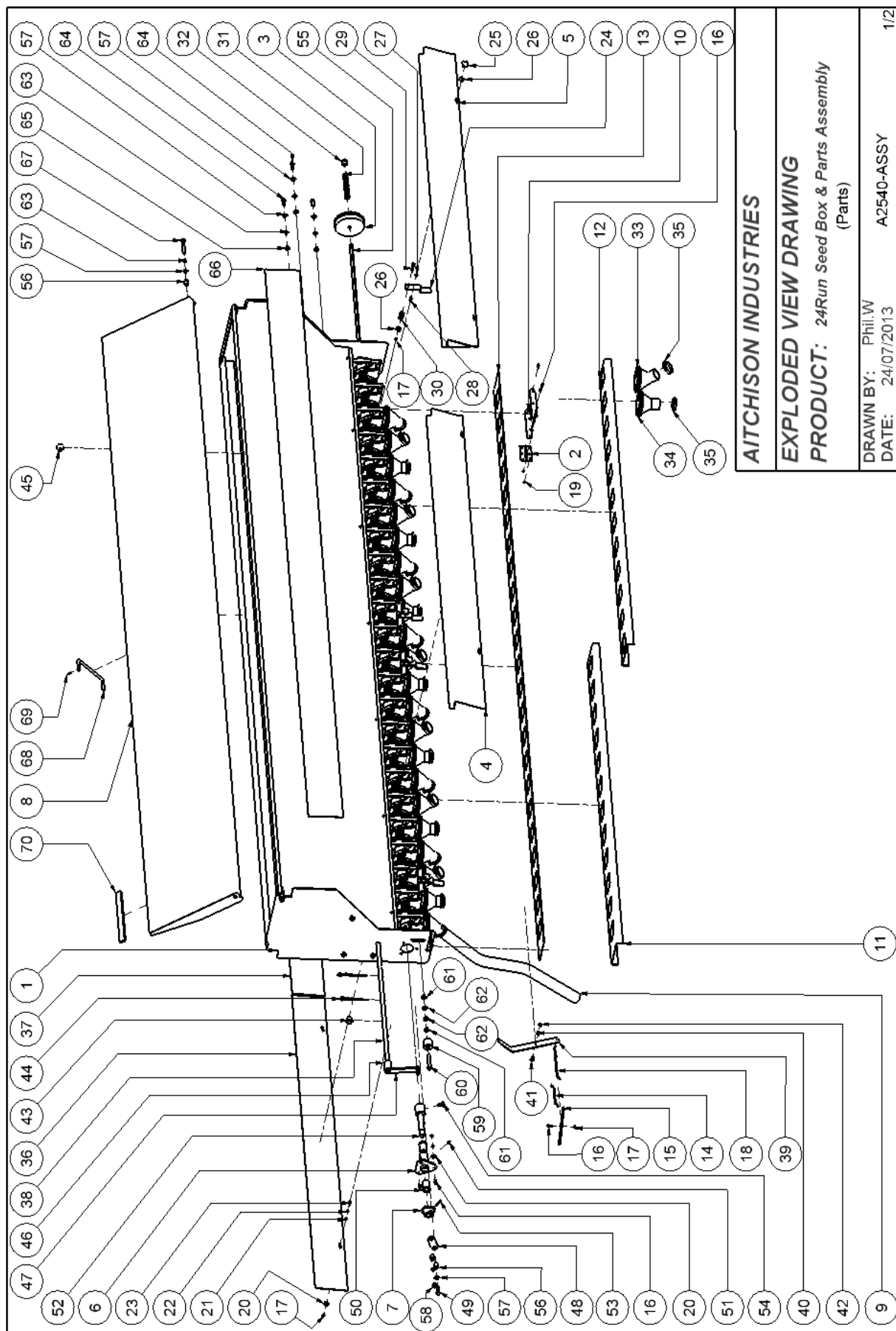
EXPLODED VIEW DRAWING

PRODUCT: Disc Pod Assembly (4000 Series)

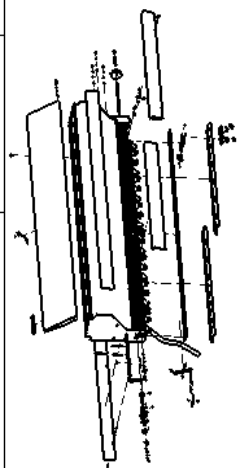
DRAWN BY: Phil.W

DATE: 15/03/2013

A2512



ITEM	QTY	DESCRIPTION	PART NUMBER	ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	24Run Seed Box Assembly	A2541	36	1	24Run Seed D-S Rear Inspection Panel	A2540-08
2	4	3" x 2" S/S Butt Hinge	A23805	37	1	24Run Seed Non-D-S Rear Inspection Panel	A2540-09
3	24	Sponge Pad & Disc	A2364	38	1	4000 24Run Agitator Shaft	A2540-10
4	1	24Run Front D-S Calibration Panel Assembly	A2542	39	1	4000 End Panel Rodent Handle	A2540-11
5	1	24Run Front Non-D-S Calibration Panel Assembly	A2543	40	1	8mm Flat Washer	9031
6	1	Seed Shaft Mount	A2337	41	1	M8 x 20 Bolt	8311H
7	1	13T Sprocket 1/2" Agitator Boss	A28025	42	1	M8 Nyloc Nut	9105
8	1	4000 Series Seed Lid Assembly (24Run)	A2544	43	6	S 210M Flanged Bush	A2357
9	1	35mm Seed Dropper Hose / Meter	A2384-01	44	24	Agitator Shaft R Clip	A2359
10	4	4000 Series Blank Off Plate Retainer	A2540-01	45	1	16mm Locking Collar	A2360
11	1	4000 Series D-End Seed Tray (24Run)	A2540-02	46	1	Agitator Boss	A28034-02
12	1	4000 Series Non-D-End Seed Tray (24Run)	A2540-03	47	1	4000 Adlatator Shaft Arm	A2540-12
13	1	4000 Series Rodent Stop Slide (24Run)	A2540-04	48	1	Agitator Arm Link	A28008
14	1	4000 Series Rodent Stop Link Wire	A2540-05	49	2	Agitator Link Bolt	A2618-04
15	1	4000 Series Rodent Stop Link Arm	A2540-06	50	2	S 15 Flanged Bush	A2352
16	16	M6x20 Bolt	8205H	51	1	M6 Grease Nipple Straight	9323
17	9	M6 Nyloc Nut	9109	52	1	Seed Shaft Axle	A2361
18	1	4000 Series Rodent Stop Lever Wire	A2540-07	53	1	6 x 40 Roll Pin	9251
19	16	6-8 S/S Rivet	9302	54	1	M10 x 20 Bolt	8419H
20	7	6mm Fender Washer	9022	55	1	4000 24Run Seed Shaft	A2540-13
21	19	M6 Nut	9121	56	4	S 206M Flanged Bush	A2355
22	19	6mm Spring Washer	9021	57	10	10 mm Flat Washer	9042
23	4	M6 x 25 Bolt	8213H	58	1	M10 Nyloc Nut	9142
24	4	Seed Tray Clip	A3040-07	59	1	Nylon Tensioner Roller	A2336-04
25	4	M6 Cross Knob	9122	60	1	M12 x 65 Bolt	8507H
26	8	6mm S/S Fender Washer	9022S	61	2	M12 Nut	9152
27	4	M6 S/S Nut	9121S	62	2	12mm Flat Washer	9051
28	4	M6 x 20 S/S Bolt	8205S	63	8	10mm Spring Washer	9041
29	4	M6 x 50 SS Bolt	8210S	64	6	M10 x 25 Bolt	8418H
30	4	Agrisprid Spinner Disc Spring	A4619	65	6	M10 Nut	9141
31	24	Seed Pad Spring	A2280-10	66	1	3M Yellow Panel Decal	D1513
32	24	S 9 Plastic Bush	A2280-11	67	2	M10 x 65 Bolt	8417H
33	16	Fert Cup Angled	A2290-13	68	1	Lid Stay	A2354
34	8	Fert Cup Straight	A2290-12	69	1	3 x 20 Roll Pin	9267
35	24	35mm Grey Clip	A2370	70	3	Buffer Pad	A2375



AITCHISON INDUSTRIES

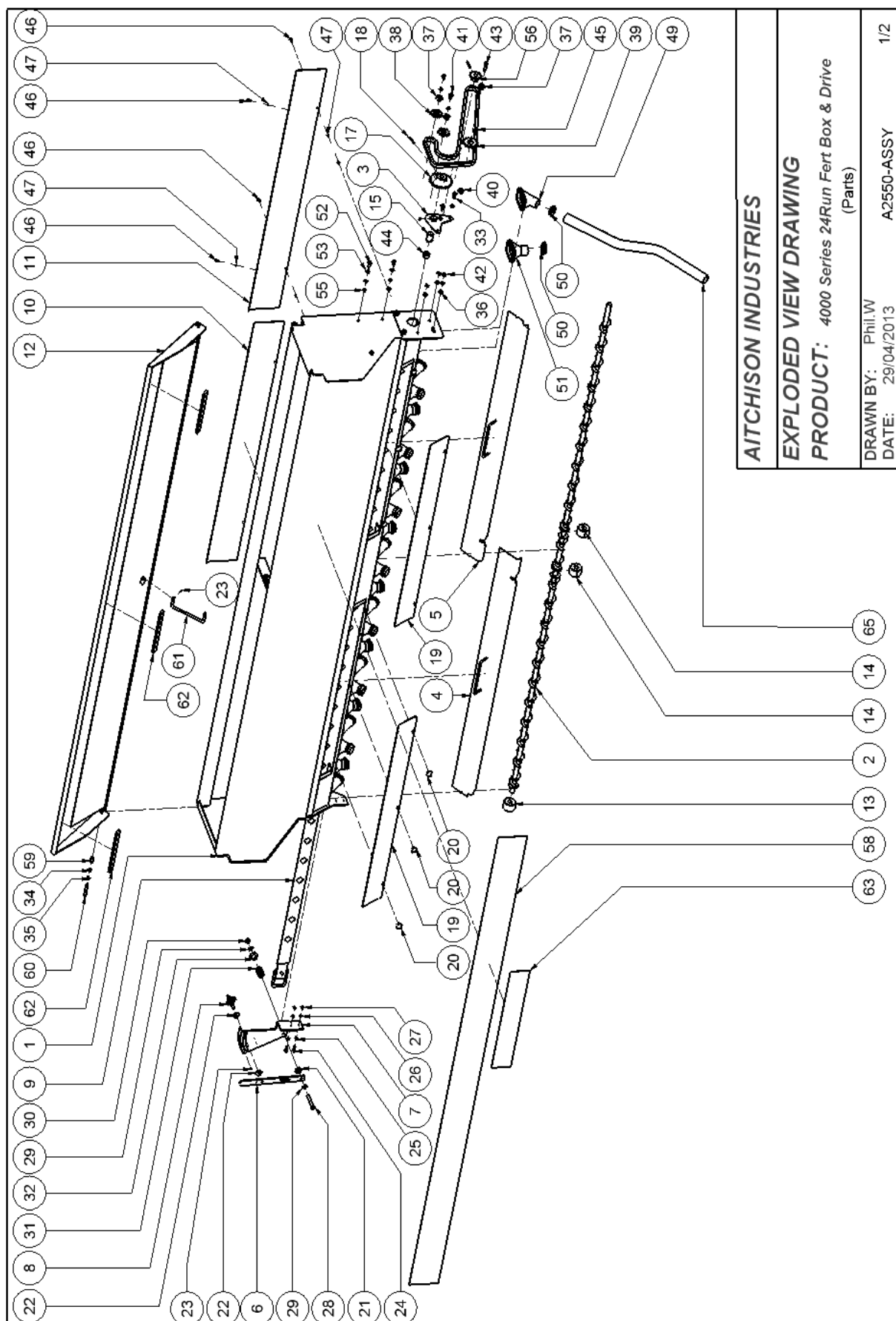
EXPLODED VIEW DRAWING

PRODUCT: 24Run Seed Box & Parts Assembly
(Numbers)

DRAWN BY: Phil.W
DATE: 24/07/2013

A2540-ASSY

2/2



AITCHISON INDUSTRIES

EXPLODED VIEW DRAWING

PRODUCT: 4000 Series 24Run Fert Box & Drive

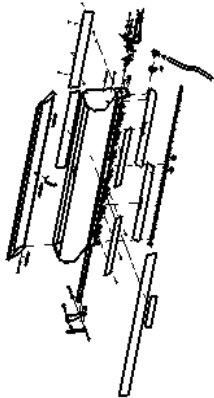
(Parts)

DRAWN BY: Phil W
DATE: 29/04/2013

A2550-ASSY

1/2

Parts List				Parts List			
ITEM	QTY	DESCRIPTION	PART NUMBER	ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	4000 24Run Complete Fert Box Assembly	A2551	35	7	10mm Spring Washer	9041
2	1	4000 24Run Fert Auger Assembly	A2554	36	3	M10 Nut	9141
3	1	4000 Fert Auger Drive Mount Assembly	A2555	37	3	6200 Bearing	9219
4	1	4000 24Run LH Fert Baffle Assembly	A2556LH	38	2	13T 1/2" Pitch Idler Sprocket	A2550-05
5	1	4000 24Run RH Fert Baffle Assembly	A2556RH	39	1	17T Plate Sprocket Tensioner	A2350-01
6	1	Fertiliser Control Arm	A23142	40	1	4000 Fert Auger Tensioner Boss	A2550-02
7	1	Fertiliser Control	A23143	41	2	M10 x 20 Bolt	8419H
8	1	M10 Fert Adjuster Handle	A23145	42	1	10mm HD Flat Washer	9040
9	1	4000 24Run Fert Slide Assembly	A2558	43	1	M10 x 45 Bolt	8404H
10	1	4000 24Run LH Fert Slide Cover Assembly	A2560LH	44	1	7/8" Shaft Collar (22mm)	A23148
11	1	4000 24Run RH Fert Slide Cover Assembly	A2560RH	45	1	4000 Fert Box Drive Chain	A2550-04
12	1	4000 Series Seed Lid Assembly (24Run)	A2544	46	8	M6 x 16 Bolt	8208H
13	1	End Fertiliser Auger Boss	A23154	47	8	6mm Spring Washer	9021
14	2	Center Auger Block Boss	A23153	48	4	M6 Nut	9121
15	1	S 15 Flanged Bush	A2352	49	16	Fert Cup Angled	A2290-13
16	1	M6 Grease Nipple Straight	9323	50	24	35mm Crey Clip	A2370
17	1	27T Sprocket Half Inch Pitch 7/8" Bore	A23130	51	8	Fert Cup Straight	A2290-12
18	1	6 x 50 Roll Pin	9262	52	6	M10 x 25 S/S Bolt	8418S
19	2	4000 24Run Trough Removable Panel	A2550-01	53	6	10mm S/S Flat Washer	9039S
20	6	M6 Cross Knob	9122	54	6	10mm S/S Spring Washer	9041S
21	1	10mm Spacer	A23142-01	55	6	M10 S/S Nut	9141S
22	2	M10 Fender Washer	9037	56	1	13T Sprocket 1/2" Pitch Boss 20ID	A2339-01
23	2	3 x 20 Roll Pin	9267	57	1	6 x 40 Roll Pin	9251
24	2	M8 x 25 Bolt	8305H	58	1	3M Yellow Panel Decal	D1513
25	2	8mm Flat Washer	9031	59	2	S 206M Flanged Bush	A2355
26	2	8mm Spring Washer	9030	60	2	M10 x 65 Bolt	8417H
27	2	M8 Nut	9106	61	1	Lid Stay	A2354
28	1	M12 x 90 Bolt	8524H	62	3	Buffer Pad	A2375
29	2	12mm Flat Washer	9051	63	1	Decal "SEEDMATIC"	D1510
30	1	M12 Nyloc Nut	9151	64	1	Decal "4124CT"	D4002
31	1	Fert Leaver Spring	A23146	65	1	35mm Seed Dropper Hose / Meter	A2384-01
32	1	S 179M Plastic Bush	A23142-02	66	1	1/2" Chain Joiner	ZCH1/2J
33	2	M10 x 25 Bolt	8418H	67	1	1/2" Chain Half Link	ZCH1/2L
34	4	10 mm Flat Washer	9042				



AITCHISON INDUSTRIES

EXPLODED VIEW DRAWING

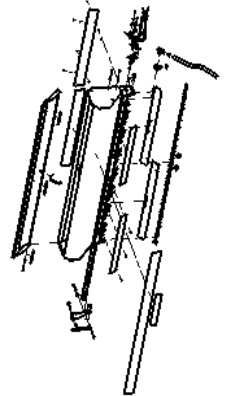
PRODUCT: 4000 Series 24Run Fert Box & Drive (Numbers)

DRAWN BY: Phil.W

DATE: 29/04/2013

A2550-ASSY

2/2



AITCHISON INDUSTRIES

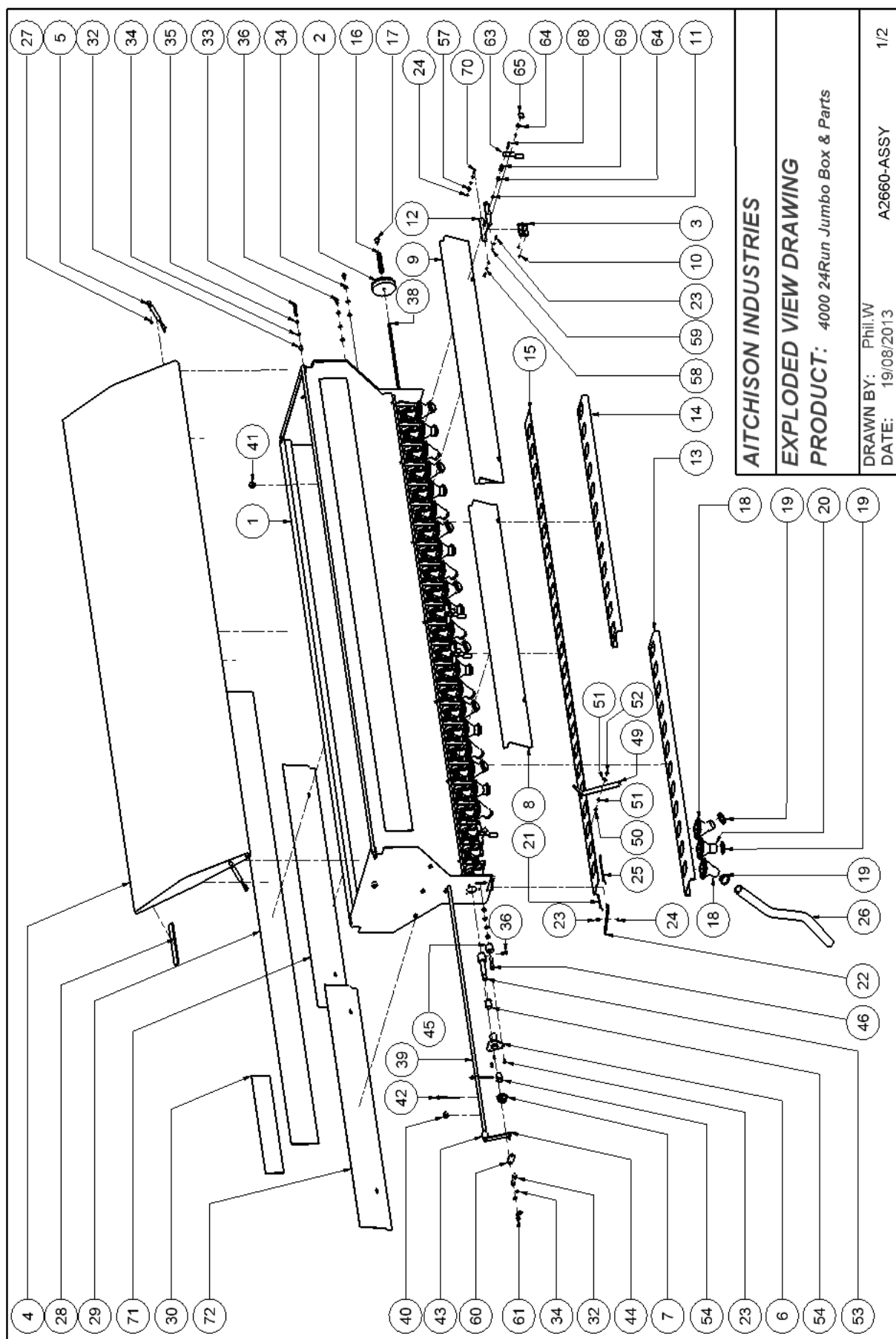
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PRODUCT: 4000 Series 24Run Fert Box & Drive
(Numbers)

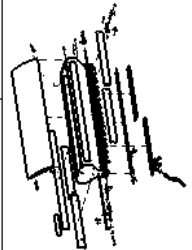
DRAWN BY: Phil.W
DATE: 29/04/2013

A2550-ASSY

2/2



ITEM	QTY	DESCRIPTION	PART NUMBER	ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	24Run Jumbo Box Assembly (4000)	A2661	37	8	M10 Nut	9141
2	24	Sponge Pad & Disc	A2364	38	1	4000 24Run Seed Shaft	A2540-13
3	4	3" x 2" S/S Butt Hinge	A23805	39	1	4000 24Run Agitator Shaft	A2540-10
4	1	4000 Series Jumbo Lid Assembly (24Run)	A2664	40	6	S 210M Flanged Bush	A2357
5	2	Ezy Lift Gas Stay	A3041-02	41	1	16mm Locking Collar	A2360
6	1	Seed Shaft Mount	A2337	42	24	Agitator Shaft R Clip	A2359
7	1	13T Sprocket 1/2" Agitator Boss	A28025	43	1	Agitator Boss	A28034-02
8	1	24Run Front D-S Calibration Panel Assembly	A2542	44	1	4000 Agitator Shaft Arm	A2540-12
9	1	24Run Front Non-D-S Calibration Panel Assembly	A2543	45	1	Nylon Tensioner Roller	A2336-04
10	8	6-8 S/S Rivet	9302	46	1	M12 x 65 Bolt	8507H
11	2	M6 S/S Nyloc Nut	9109S	47	2	M12 Nut	9152
12	4	4000 Series Blank Off Plate Retainer	A2540-01	48	2	12mm Flat Washer	9051
13	1	4000 Series D-End Seed Tray (24Run)	A2540-02	49	1	4000 End Panel Rodent Handle	A2540-11
14	1	4000 Series Non-D-End Seed Tray (24Run)	A2540-03	50	1	M8 x 20 Bolt	8311H
15	1	4000 Series Rodent Stop Slide (24Run)	A2540-04	51	2	8mm Flat Washer	9031
16	24	Spring - Moore Sponge Pad	A2280-10	52	1	M8 Nyloc Nut	9105
17	24	S 9 Plastic Bush	A2280-11	53	1	Seed Shaft Axle	A2361
18	16	Fert Cup Angled	A2290-13	54	2	S 15 Flanged Bush	A2352
19	24	35mm Grey Clip	A2370	55	1	6 x 40 Roll Pin	9251
20	8	Fert Cup Straight	A2290-12	56	1	M6 Stright Grease Nipple	9323
21	1	4000 Series Rodent Stop Link Wire	A2540-05	57	7	6mm Fender Washer	9022
22	1	4000 Series Rodent Stop Link Arm	A2540-06	58	19	6mm Spring Washer	9021
23	16	M6x20 Bolt	8205H	59	19	M6 Nut	9121
24	5	M6 Nyloc Nut	9109	60	1	Agitator Arm Link	A28008
25	1	4000 Series Rodent Stop Lever Wire	A2540-07	61	2	Agitator Link Bolt	A2618-04
26	1	35mm Seed Dropper Hose / Meter	A2384-01	62	1	M10 Nyloc Nut	9142
27	2	M8 Half Nut	9103	63	4	Seed Tray Clip	A3040-07
28	3	Buffer Pad	A2375	64	8	6mm S/S Fender Washer	9022S
29	2	3M Yellow Panel Decal	D1513	65	4	M6 Cross Knob	9122
30	1	Decal "SEEDMATIC"	D1510	66	4	M6 S/S Nut	9121S
31	1	Decal "4024J"	D4003	67	4	M6 x 20 S/S Bolt	8205S
32	4	S 206M Flanged Bush	A2355	68	4	M6 x 50 SS Bolt	8210S
33	2	M10 x 65 Bolt	8417H	69	4	Agripred Spinner Disc Spring	A4619
34	12	10 mm Flat Washer	9042	70	4	M6 x 25 Bolt	8213H
35	10	10mm Spring Washer	9041	71	1	24Run Jumbo Rear Non D-S Inspection Panel	A2660-01
36	9	M10 x 25 Bolt	8418H	72	1	24Run Jumbo Rear D-S Inspection Panel	A2660-02



AITCHISON INDUSTRIES

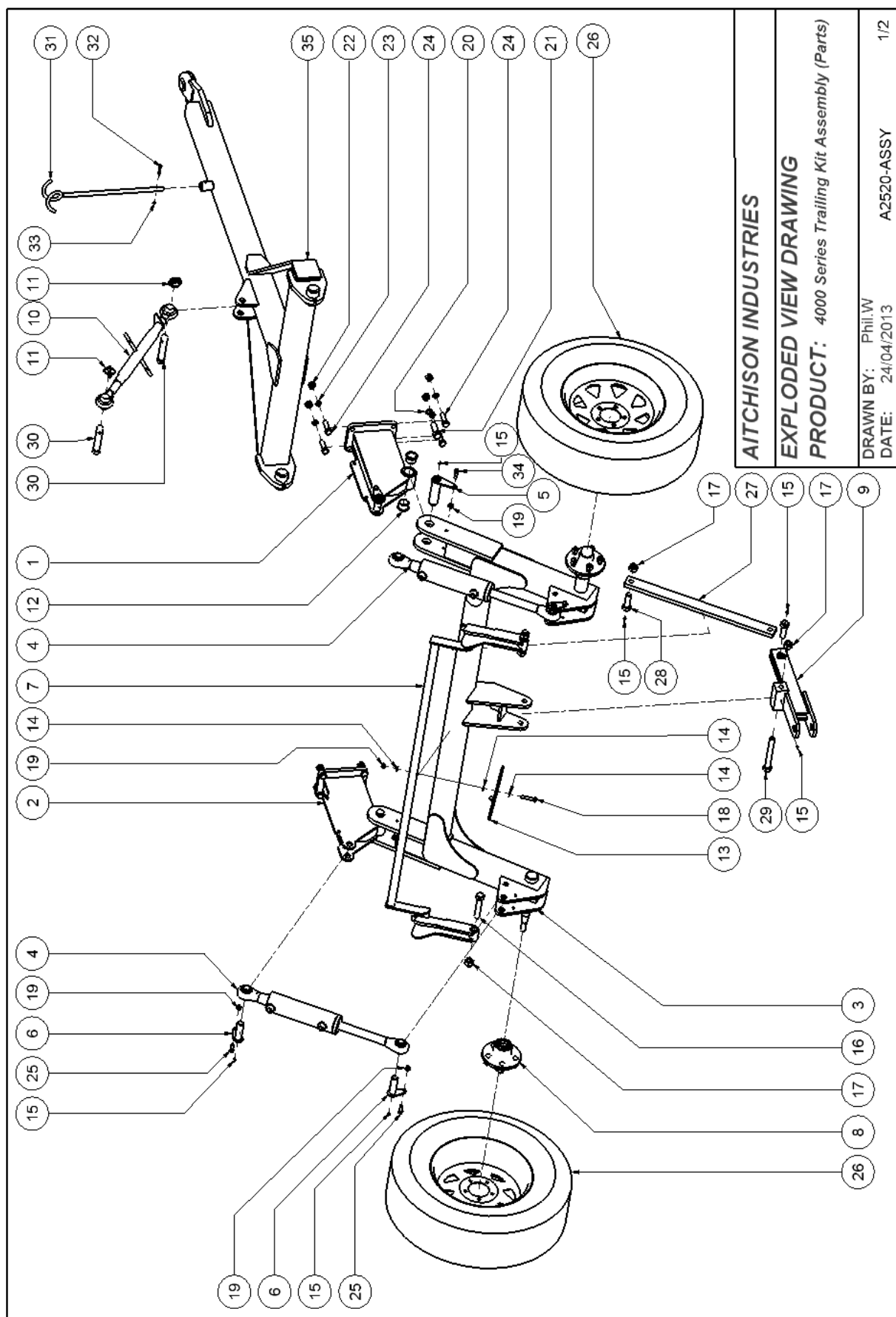
EXPLODED VIEW DRAWING

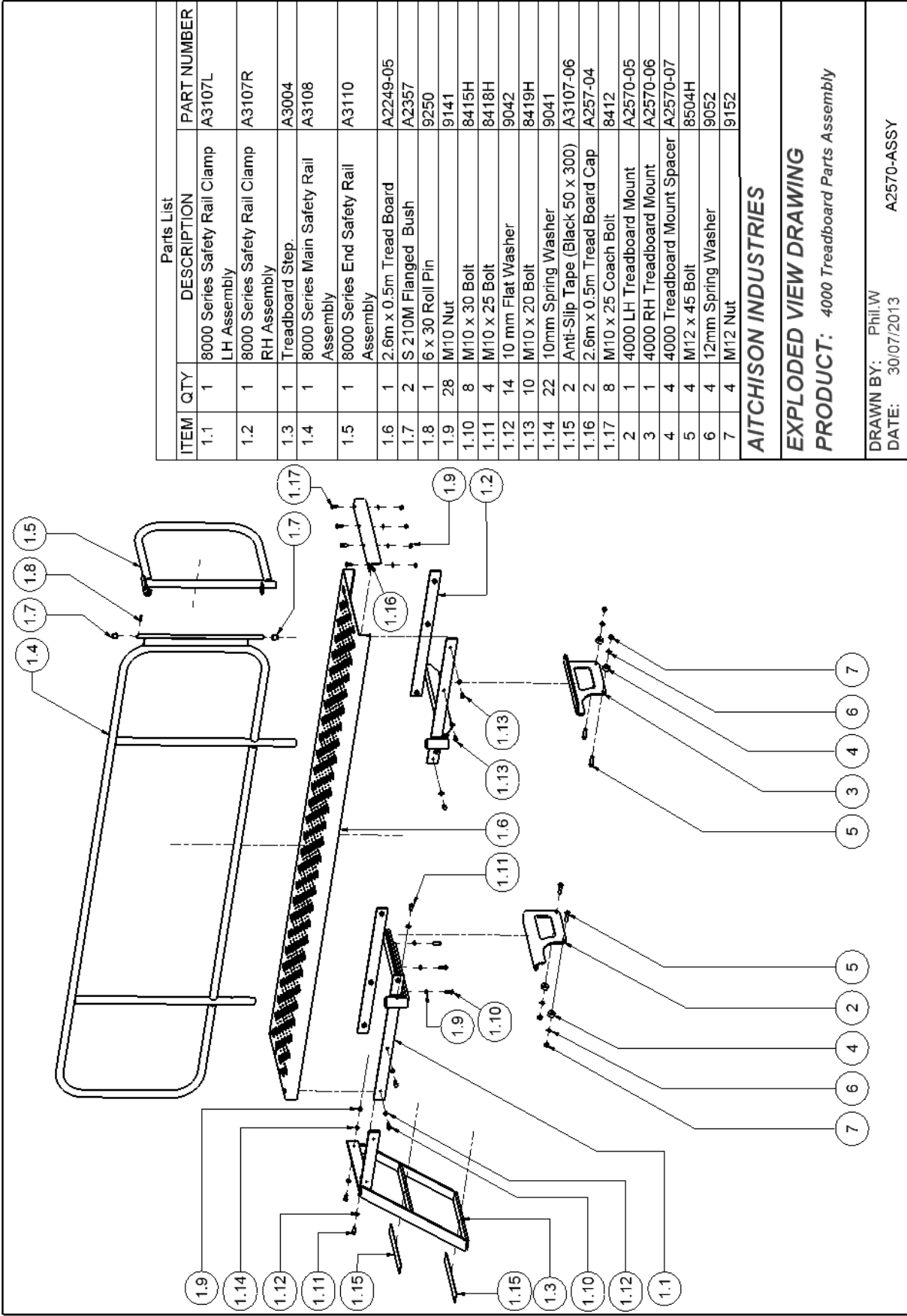
PRODUCT: 4000 24Run Jumbo Box Part Numbers

DRAWN BY: Phil.W
DATE: 19/08/2013

A2660-ASSY

2/2





Parts List		
ITEM	QTY	PART NUMBER
1.1	1	8000 Series Safety Rail Clamp LH Assembly
1.2	1	8000 Series Safety Rail Clamp RH Assembly
1.3	1	Treadboard Step
1.4	1	8000 Series Main Safety Rail Assembly
1.5	1	8000 Series End Safety Rail Assembly
1.6	1	2.6m x 0.5m Tread Board
1.7	2	S 210M Flanged Bush
1.8	1	6 x 30 Roll Pin
1.9	28	M10 Nut
1.10	8	M10 x 30 Bolt
1.11	4	M10 x 25 Bolt
1.12	14	10 mm Flat Washer
1.13	10	M10 x 20 Bolt
1.14	22	10mm Spring Washer
1.15	2	Anti-Slip Tape (Black 50 x 300)
1.16	2	2.6m x 0.5m Tread Board Cap
1.17	8	M10 x 25 Coach Bolt
2	1	Linkage LH Treadboard Mount Assembly
3	1	Linkage RH Treadboard Mount Assembly
4	4	M16 x 50 Bolt
5	4	16mm Spring Washer
6	4	M16 Nut
AITCHISON INDUSTRIES		
EXPLODED VIEW DRAWING		
PRODUCT: 4000 Linkage Treadboard Parts		
DRAWN BY: Phil W DATE: 13/09/2013 A2670-ASSY		

