

SEEDKING
Professional

SKA-2122

NO-TILL DRILL

REESE ENGINEERING LTD
41 KELVIN GROVE ROAD – PO BOX 5056
PALMERSTON NORTH, NEW ZEALAND
PHONE: (06) 357 9323



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; ensure proper seedling germination, leading to superior crops and thus greater revenue earning potential.

It has often been said “when all else fails-read the operators 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
Rob Baan

Directors
Reese Agri

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TECHNICAL SPECIFICATIONS

SEEDKING Professional	SKA-2122
Overall Width – Transport	3.1m
Overall Length	5.6m
Sowing Width	3.0m
Working Speed	6-15 km/h
Tractor HP (min)	120
Weight Empty	4250kg
Seed Hopper Capacity	810lts
Fertiliser Hopper Capacity	940lts
No. Disc	22
Row Spacing	136mm

Optional Extras:

Small Seeds Box / Granule Box #A3755

Chain Harrow #A3750

TO THE OWNER AND OPERATOR

Your Aitchison drill has been 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: _____

WARRANTY

The warranty card on your SKA2122 Professional 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.

Indemnity from liability is a complex subject. Our indemnity makes it clear that we are not liable for any claim lodged for breakdown, delays or machine down time, crop failure or any other contingency involving the use of our equipment. In all these circumstances the user can take precautionary measures to ensure that none of these problems occur – like having on-hand spare parts at the local dealer. Crop failures can be caused by countless problems – our job is to mechanically place seed in the soil and any mechanical malfunction preventing this happening can be checked during the seeding operation and rectified by the operator.

ORDERING PARTS AND ACCESSORIES

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

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 on your machine safety signs. 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.

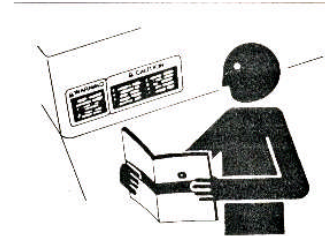
Permit only one person, the operator, on tractor platform while tractor and drill are in operation.

Keep riders off the seed drill. 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.

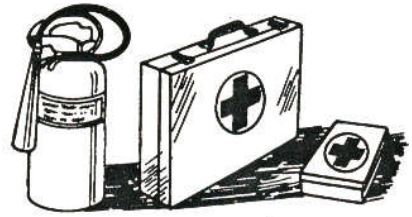
Wear suitable hearing protective device as prolonged exposure to loud noise can cause impairment or loss of hearing. Wear safety gloves when working with discs as they can have sharp edges.



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

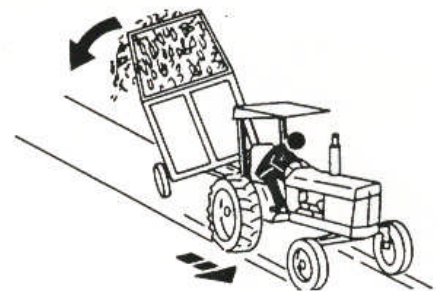
Do not exceed transport speed for machine; see your local Aitchison dealer. Never transport at any speed which does not permit adequate control of steering and stopping.

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 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 buildup 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.



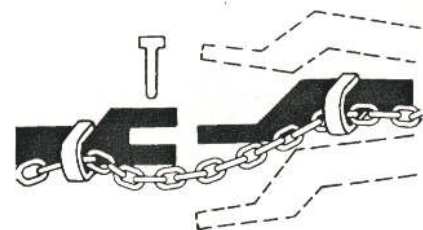
Do not pour waste onto the ground, down a drain, or into any water source. Use the manufacturer's directions on the correct way to recycle or dispose of waste.

USE A SAFETY CHAIN

A safety chain will help control drawn equipment should it accidentally separate from the drawbar.

Using the appropriate adapter parts, attach the chain to the tractor drawbar support or other specified anchor location. Provide only enough slack in the chain to permit turning.

Make sure that the chains you are using has a strength rating double or greater than the gross weight of the towed machine. Do not use the safety chain for towing.



GENERAL OPERATION IN THE FIELD

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 12 km/h may be maintained.

Always lift the drill out of the ground before turning sharp corners as this will protect the disc 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 disc may 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 chain or bar harrows behind the drill is very beneficial as this will crumble the groove and help to cover the seed.

PASTURELAND FARMING WITH THE AIRPRO SKA2122

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. 3. Establish optimum time for planting.
4. Check and control weeds present, before and during crop establishment.
5. Check and control insect and slug infestation before and during plant 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 often have crop failures on the first occasion, but as their skills and understanding of the technique improve, so do their crop results.

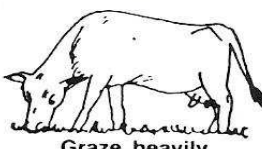

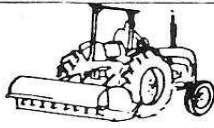


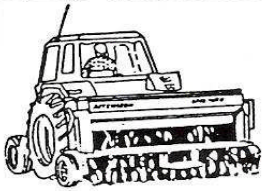
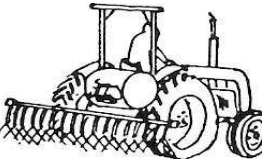
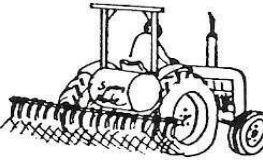
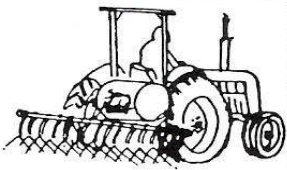
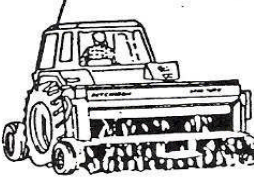


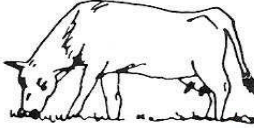
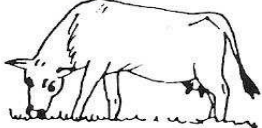
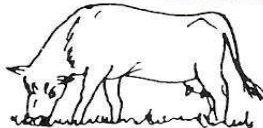
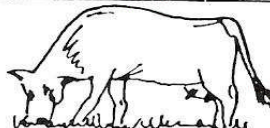
TECHNIQUES AND TIMING FOR PASTURE RENOVATION

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

	TEMPERATE PASTURELAND		TROPICAL PASTURELAND	ARID PASTURELAND
	REJUVENATION	RENEWAL		
TIME ↓	Autumn or spring	Autumn	Spring	Before or after monsoonal rain
1.	 Graze heavily	 Graze heavily	 * Mow with flail type mower	
2.		 Allow 1 week to recover	 Allow 3 days to recover	
3.	 Seed with Seedmatic	 Spray with total spectrum herbicide. Include insecticide	 Spray for insects. Can use light herbicide rate to control competition	
4.	 Spray for insects and watch for withholding period requirements	 Seed with Seedmatic	 Seed with Seedmatic	 Seed with Seedmatic
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 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. Also, withholding of livestock after treatment is not necessary. Both these factors are important features with the Seedking SKA-2122.

Watch for slugs. Slugs like the moist groove produced by the disc 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 SEEDKING SKA-2122

We are not in a position to give total formal recommended seeding rates, chemical usage and fertiliser recommendations because of the circumstance that the Seedking 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 is always disappointing, but grain after legume or brassica is outstanding.

Here are just a few possibilities:

Brassicas, Turnips, Swedes, Legumes – Can be sown early 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 can be carried out also if necessary.

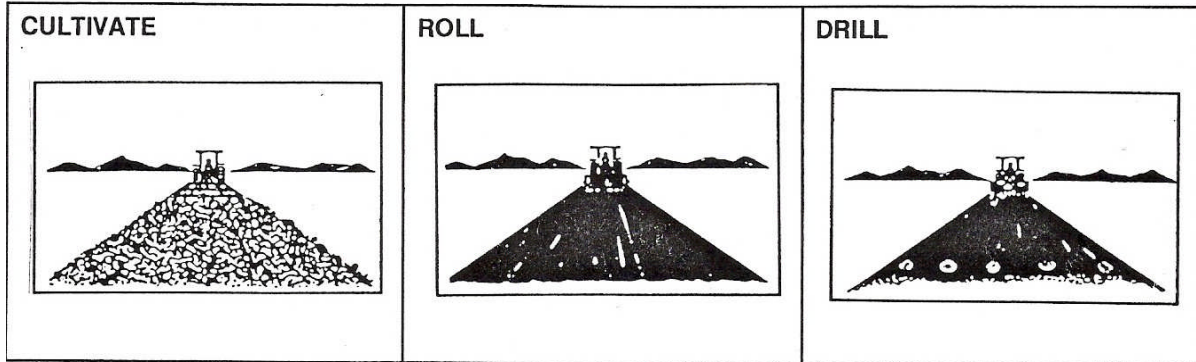
Wheat and Barley – Direct seeding in early spring or autumn depending on variety. Spray out pasture with approved herbicide (may not be necessary after brassica). Always sow with fertiliser.

Lucerne, Alfalfa – Sow in early spring after spraying out entire area with Roundup or Paraquat. 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. Use fertiliser and ensure that spraying for insects is carried out – particularly for control of slugs and spring snails.

Green-feed Maize – Carry out in early spring and the same rules apply as with wheat, barley and oats. You may wish to seed in 30 or 45 cm 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 disced 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 Seedking, 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.



DEPTH CONTROL SYSTEM

The Aitchison SEEDKING SKA-2122 seed drill is fitted with an electronic depth control device that automatically controls the seed drill seeding depth over undulating ground contours. This system can also be over ridden if needed by the flick of a switch.

This system has 5 major components:

1. Depth wheel assembly. (Front centre rubber wheel)
2. Load cell. (Mounted to “Depth Wheel Assembly”)
3. Electro hydraulic valve block. (Mounted on drawbar)
4. Load cell monitor. (Mounted in tractor cab)
5. Drawbar Ram. (Hydraulic Ram on drawbar)

System overview:

When seeding the front centre “Depth Wheel” rolls along the ground, as the ground in front of the seed drill rises or drops away so does the “Depth Wheel”.

The depth wheel is fitted with a spring and a load cell.

When the depth wheel rides up over a hump or drops down through a dip the load cell measures the different pressures applied to the spring.

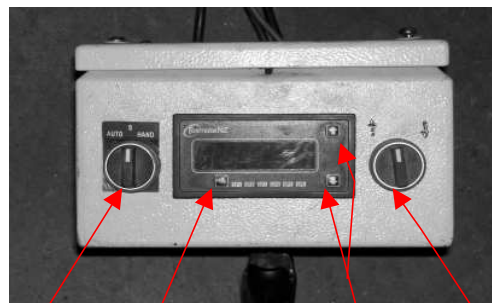
The load cell feeds this information to the “Load Cell Monitor”, the monitor then tells the “Electro Hydraulic Valve Block” to pump oil to the top or bottom of the “Drawbar Ram”, and this raises or lowers the front of the seed drill to match the ground contours.

System requirements:

12 volts power supply inside tractor cab. (Cigarette lighter plug).

Continuous hydraulic oil supply, 12 l/m @ 2600psi min. (One hydraulic bank with lever locked on).

LOAD CELL MONITOR



Manual/Auto Switch Program Button Up/Down Button Up/Down Switch

SETTING THE SEEDING DEPTH

1. Ensure that the “Side Stabiliser Wheels” are folded up clear of ground.
2. Ensure that there is power to the “Load Cell Monitor” (switch to “Manual”)
3. Ensure that there is oil flow to the “Electro Hydraulic Valve Block”.
4. Ensure that all other systems are connected. (Rear axle hydraulics, Eagle Seedrate controller, etc.)

To check that the depth control system is connected correctly:

Turn the “Up” Switch on the load cell monitor: this should drive the drawbar ram **out**.

Turn the “Down” Switch on the load cell monitor: this should drive the drawbar ram **in**.

If all of the above systems are working you can now set the seeding depth on the seed drill.

Place seed in the hopper, drive forward slowly and raise the rear transport wheels fully up. (Clear of ground).

Use the up and down switch on the load cell monitor to lower the front of the drill until the disc openers start cutting into the ground. (manual/auto switch on **MANUAL**)

Check depth of planted seed in seed slot, if seed is at the required depth, good; if not use the up and down switch to achieve the required depth. (While driving forward with the rear transport wheel clear of ground.)

Once the required seed depth is achieved read the figure shown on the load cell monitor. Eg, 48.

This figure is what the load cell monitor needs to be set at to control the required seeding depth.

Press the “program” button on the load cell monitor, then use the up/down arrow buttons to select the required seed depth figure. Eg, 48

Press the “program” button to save.

The seeding depth has now been set; flick the manual/auto switch to **AUTO**.

NOTE:

As the seed drill hoppers get lighter because of the product being sown; the seeding depth may change.

If the ground conditions change (Hard/Soft) the seeding depth may change.

PROBLEM SHOOTING

If the seed drill starts bouncing up and down; slow the oil flow down until this knee-jerk reaction has stopped.

Drawbar ram moves in opposite direction than needed; swap over the electrical plugs on the “electro hydraulic valve”.

Drawbar ram only moves slightly then stops; swap hydraulic hoses around, (pump oil in opposite direction.

Drawbar ram does not move in or out; check there is power to the “Load cell monitor”, check there is oil flow to the “electro hydraulic valve”, check that the transport lock valve (tap on front hydraulic ram) is on.

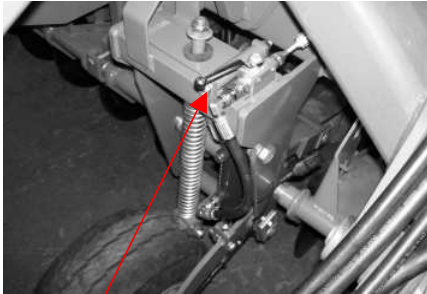
NOTE:

The depth control wheel is plumbed into the Rear Transport Axle hydraulic system.

When the drill is lowered for seeding the Rear Transport Axle must be lifted fully clear of the ground; this will allow the front Depth Control Wheel hydraulic ram to extend fully and allow it to follow the contours of the ground.

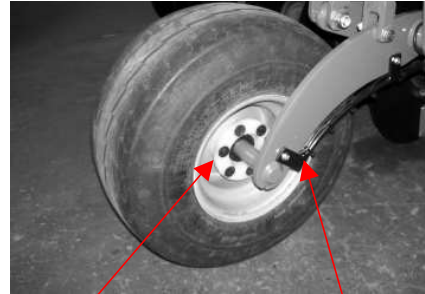
The depth control wheel is also fitted with a Ball Valve; this valve MUST be turned ON for this system to work.

DEPTH CONTROL WHEEL



Ball Valve ON

GROUND SPEED SENSOR



Ground Speed Magnets Ground Speed Sensor

NOTE:

The Depth Control Wheel is also used for ground speed sensing; this speed sensing is used by the EAGLE Seed Rate Controller to control seeding rates.

Hence this wheel has to make contact with the ground while seeding.

SIDE STABILISER WHEELS

The Aitchison SEEDKING is fitted with two “Stabiliser Wheels”; these wheels are located on the front two corners of the seed drill.

These wheels are designed to stabilise the seed drill on hillsides and help prevent the front corners of the drill ploughing too deep in undulating ground. When these wheels are not required they can be quickly folded up out of the way.

STABILISER WHEEL ADJUSTMENT

After you have set the seeding depth of the seed drill and the stabiliser wheels are required, they can be lowered into place.

With the seed drill engaged (seeding) on a flat piece of ground stop the tractor and lower the stabiliser wheels and pin into place, adjust the wheels with the crank handle provided. (located on Front Treadboard.)

Adjust the wheels down onto the ground so they carry some weight (preload of about 15mm) this will ensure that the each end of the drill is carried at the correct height.

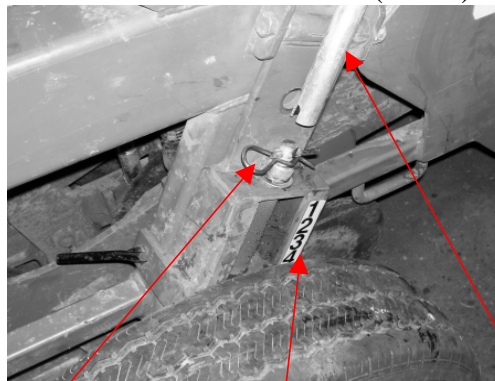
NOTE:

Use the depth gauge decals to ensure that both stabiliser wheels are set to the same height.

Ensure that the “R” clip is fitted through the top of the adjustment thread to prevent the wheels self-adjusting.

Ensure that the stabiliser wheels are locked in the “UP” position when the drill is transported on public roads.

STABILISER WHEEL (down)



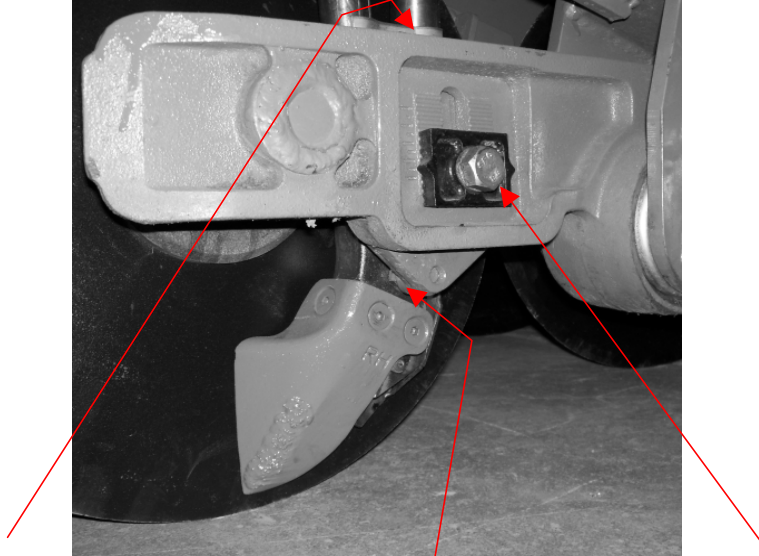
“R” Clip

Depth Decal

Crank Handle

MAKING ADJUSTMENTS

There are three bolts used to adjust the Boot; One main bolt M16 x 40 (24mm head), which is used to adjust the boot up/down and two M12 x 20 (19mm head) to adjust the boot in/out from the disc.



M12 Bolt

M12 Bolt

M16 Bolt

To make adjustment to the Boots raise the drill up using the hydraulics. **Ensure that the transport locks are locked.**
(Rear lock on Rear Transport Axle, Valve on front Drawbar Ram.)

All three of these adjustments can be made from under the drill.
To make an in/out adjustment use the custom made 19mm spanner supplied with the seed drill.



It is important that these two M12 bolts are tight after completing adjustments.
(Bolts should be tightened against each other).

To make an up/down adjustment loosen of the M16 bolt enough that enable the complete Boot assembly to move.
When the boot is at the correct height retighten the bolt ensuring that the lock washer is located in the notches provided.

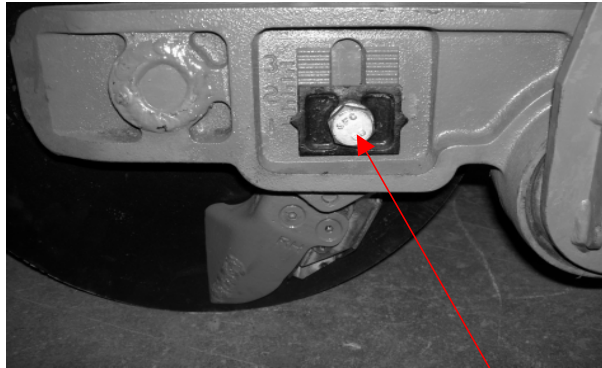
BOOT REPLACEMENT

Over a period of time the Boots will wear down and will need replacing.

The easiest way to go about this is to remove the complete Boot Pivot assembly.

This can be done by pulling off the seed/fertiliser dropper hoses from the top of the coulter tubes.(at disc coulter end).

Loosening/removing the M16 x 40 bolt that is used to adjust the height of the boots.

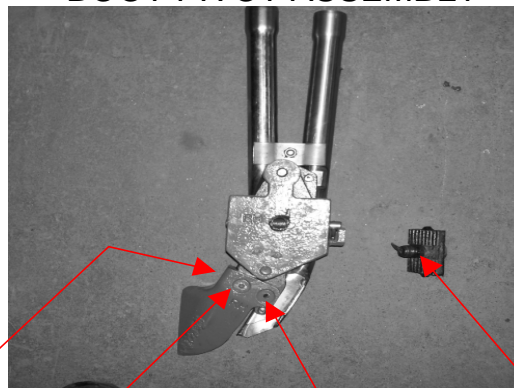


M16 x 40 Bolt

The complete Boot Pivot assembly can now be slipped down from the Dragarms.

The three countersunk (C/S) bolts have been secured by loc-tite and may require heat to break this bond.

BOOT PIVOT ASSEMBLY



C/S Bolt

C/S Bolt

C/S Bolt

M16 x 40 Bolt

Use a medium strength Loc-tite (271) when replacing the countersunk bolts.

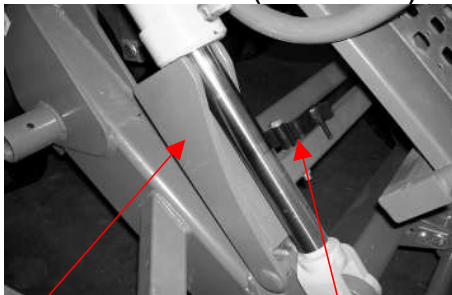
TRANSPORT LOCKS

The Aitchison SEEDKING is fitted with two Transport Locks; these locks are important safety device.

Always ensure that these Transport Locks are in place when the seed drill is transported on public roads.

Always ensure that these Transport Locks are in place when maintenance work is carried out.

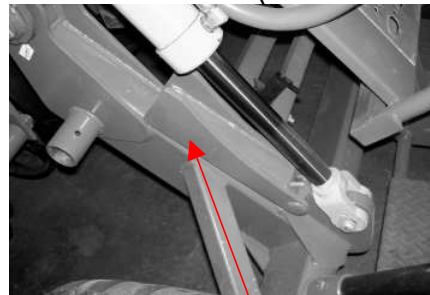
Rear Axle Lock (LOCKED)



Lock

Lock Lever

Rear Axle Lock (UNLOCKED)



Lock

TO LOCK REAR AXLE

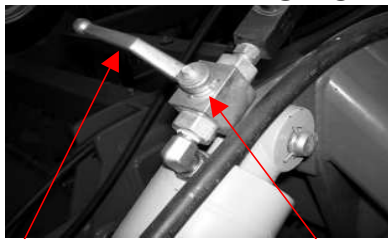
1. Fully extend rear hydraulic rams.
2. Lift lock up by hand.
3. Rotate Lock Lever.

FRONT DRAWBAR RAM LOCK

The front Drawbar Hydraulic Ram is fitted with a Ball Valve (tap).

To lock this ram, simply turn the valve to the off position.

DRAWBAR HYDRAULIC RAM



OFF Position

Ball Valve

SEED & FERTILISER RATES

The SKA-2122 is fitted with two adjustable fluted rollers; these fluted rollers gauge the amount of seed/fertiliser that is to be dispensed into the airstream. This cart can be used as a guide; the variable speed motors will take care of the rest.

SEED & FERTILISER RATES

	SEED TYPE		WHEAT	BARLEY	OATS	BEANS	GRASS	PHOSPHATE
	(Kg/Litre)		0.77	0.68	0.50	0.85	0.36	1.20
			Kg/ha	Kg/ha	Kg/ha	Kg/ha	Kg/ha	Kg/ha
SCALE: STANDARD SOWING "A"	10		16	14	20	22		40
	15		36	30	34	39	17	61
	20		53	44	48	57	24	81
	25		69	57	62	74	32	104
	30		85	72	75	92	39	128
	35		100	82	89	109	47	150
	40		114	93	102	127		175
	45		130	106	116	145		200
	50		144	118	129	162		227
	55		160	133	140	178		250
	60		175	145	154	197		259
	65		190	157	167	214		
	70		205	170	180	231		
	75		221	182	196	249		
	80		237	195	207	266		
	85		251	208	219	284		
	90		267	220	232	301		
	95		282	234	245	318		
	100		298	246	256	335		
	105		314	260	270	352		
	100		330	273	282	370		

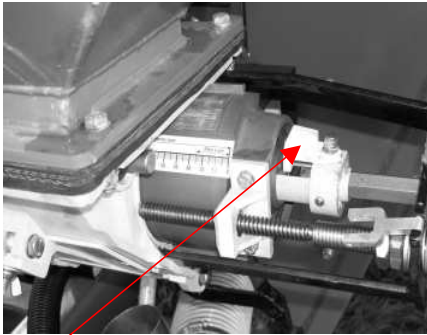
FINE SEEDS

SCALE: Fine seeds "Z"		RAPE	GRASS
		Kg/ha	Kg/ha
	2.5	1.7	
	5	4.3	
	7.5	6.4	2.6
	10	8.5	4.9
	12.5	10.7	6.8
	15	12.9	8.6
	17.5	15.0	10.5
	20	17.1	12.4
	22.5	19.3	14.1
	25	21.5	15.2

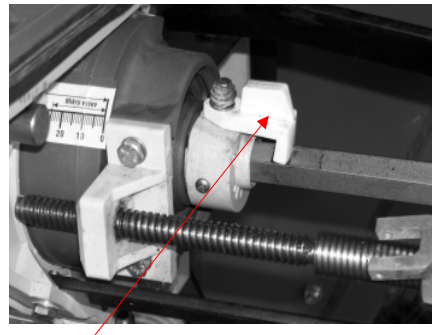
FINE SEED SETTING

Each fluted roller-metering unit has a FINE SEEDS setting; this fine seed setting is used for the metering of fine seeds or granules at low rates.

The fine seed lever works on from 0 to 25 on the fine seed scale “Z”, if higher rates than this are needed the fine seeds lever needs to be locked out and the STANDARD SOWING SCALE “A” used.



Fine seeds lever locked out (scale “A”).
For sowing most seeds from 15kg/ha up.



Fine seeds lever locked (scale “Z”).
0 < 25 only.
Adjustments over 25 with lever lock
will result in **damage**.

PRODUCT CALIBRATION

The Aitchison SKA-2122 is a very easy seed drill to calibrate. You will need the following to achieve an accurate calibration.

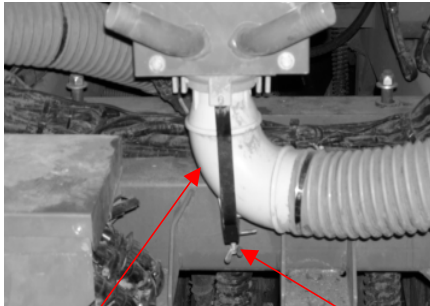
1. Scales: in grams: 0 to 5kg.
2. Small sack or bag; to catch the metered product.

With everything connected correctly (EAGLE Seed Rate Controller) you can start to calibrate the seed drill.

1. Use the "Seed & Fertiliser Rate" chart to set the Fluted Rollers to there appropriate setting.
2. Remove the plastic elbow from below metering unit.
3. Place product in hopper.
4. Select the appropriate product on the "EAGLE Seeder Console". PRODUCTS SETUP.
5. CAL FACTOR / REVS; Press enter once, product should start flowing. Press enter again, product should stop flowing. Press RESET, to clear figures on Console. DISCARD PRODUCT (Priming system)
6. Place sack or bag under metering unit.
7. CAL FACTOR / REVS; Press enter once, wait until enough product has been metered that it can be weighed accurately.
8. Press enter again to stop product flowing
9. Weigh product metered.
10. Enter weight of product into Seeder Console.
11. Replace plastic elbow below metering unit.

Please referee to the EAGLE Operators Manual to set of change seeding rates.

Plastic Elbow below Metering Unit



Plastic Elbow

Retaining Bolt

Metering unit set to catch seed



Sack / Bag

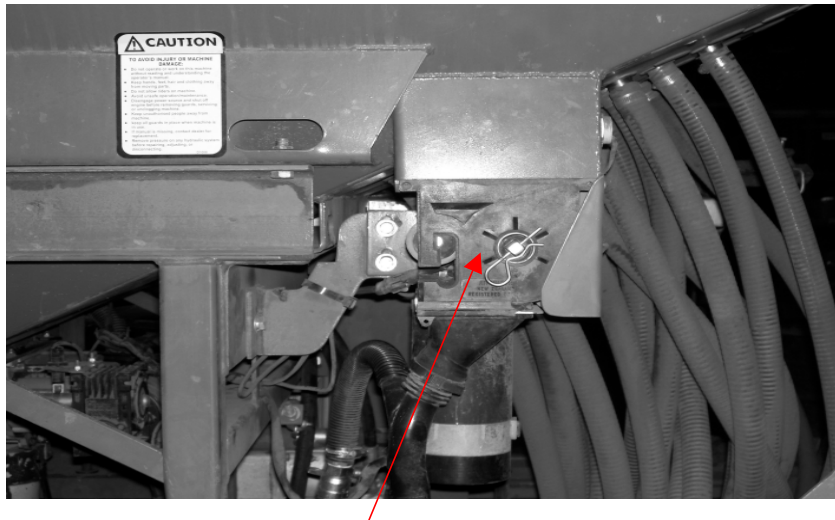
Plastic Elbow
Removed

SMALL SEEDS / GRANULE BOX

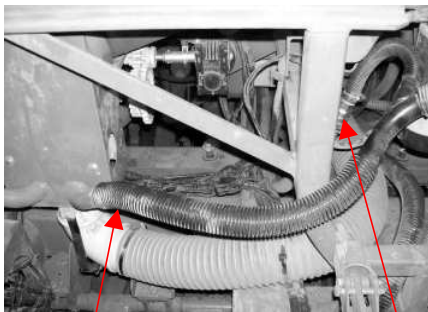
Most SKA-2122 are fitted with at least one small seeds box; this small seeds box is fitted inside main seed hopper. This small seeds box is used to apply small seeds or slug baits at independent rates.

Product metered from this box can be placed down the main airstream or broadcast rear of the seed drill.

To achieve this; simply place the dropper hose onto the main airstream inlet, or onto the rear broadcasting venturi.

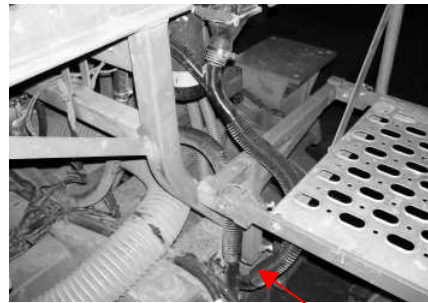


Small Seeds / Granule Box
Metering unit.



Product down main
Airstream.

25mm air
hose.



Product Broadcast
rear of drill.

NOTE;

The 25mm air supply hose has a tap that can be adjusted to achieve correct product movement from small seeds box.

SMALL SEEDS / GRANULE CALIBRATION

The small seeds box is calibrated in the same manner as the main hopper.

1. Place product in hopper.
2. Select the appropriate product on the "EAGLE Seeder Console". PRODUCTS SETUP.
3. CAL FACTOR / REVS; Press enter once, product should start flowing. Press enter again, product should stop flowing. Press RESET, to clear figures on Console. DISCARD PRODUCT (Priming system)
4. Place sack or bag under dropper hose.
5. CAL FACTOR / REVS; Press enter once, wait until enough product has been metered that it can be weighed accurately.
6. Press enter again to stop product flowing.
7. Weigh product metered.
8. Enter weight of product into Seeder Console.
9. Refit dropper hose.

Please refer to the EAGLE Operators Manual to set or change seeding rates.

EAGLE CONSOLE SETTINGS

Listed below are the key settings that are needed to for the Aitchison SKA-2122 to operate correctly.

SEEDER SETUP.

BINS SETUP

NO OF BINS: = 2 (seed/fertiliser) or 3,4 (seed/fertiliser/granule/granule).

BIN 1	BIN 2	BIN 3	BIN 4
810 L or 740 L or 670 L	940 L	70 L	70 L

EXTERNAL OPTIONS

EXTERNAL	ON	MASTER	TILLAGE
MASTER SWITCH		TYPE	

WHEEL FACTOR

WHEEL 0.249 = (Sensor on front Depth Wheel)
FACTOR m/pulse (If sensor is fitted to Dragarm Press Wheel) = **0.172**

WIDTH SPEED AND PRIME DURATION

WIDTH	2.98 meters
MANUAL SPEED	10.0km/h
PRIME TIME	5secs
AUTO PRIME	ON

MOTOR SETUP

USING FOUR	ON
PULSE MOTOR	

PRODUCTS SETUP

BIN NUMBER	1(Seed Box)
DRIVE RATIO	60.0
BIN NUMBER	2(Fertiliser Box)
DRIVE RATIO	60.0
BIN NUMBER	3(Granule Box)
DRIVE RATIO	60.0
BIN NUMBER	4(Granule Box)
DRIVE RATIO	60.0

ALARM SETUP

SHAFT STOPPED	1,2 & 3&4(if used)	ON
BIN LOW	1,2	ON
BIN EMPTY	1,2 & 3&4(if used)	ON
FAN SPEED LOW	ON	2000rpm
FAN SPEED HIGH	ON	3500rpm

NOTE:

For all other settings please refer to "EAGLE Operators Manual"

SKA-2122 HYDRAULIC FAN DRIVE SYSTEM.

The **Aitchison SKA-2122** seed drill is fitted with two independent air systems. This allows great control over seed and fertiliser placement without compromise. These systems are fed via one hydraulic bank with continuous oil flow and with an extra case drain hose.

This system has 7 major components:

1. Big flow control valve. (Controls Fertiliser fan speed)
2. Small flow control valve. (Controls Seed fan speed)
3. Fertiliser fan hydraulic motor.
4. Seed fan hydraulic motor.
5. Oil cooler. (Helps cool the oil and preheats air for Fert system)
6. Case drain hose. (Non-pressurised oil drain hose)
7. Eagle Seeder Console. (Monitors fan speeds)

System overview:

The tractor oil is fed into the “Big flow control valve”, some oil is diverted to the “Fertiliser fan hydraulic motor” and the remaining oil is fed to the “Small flow control valve”, this valve controls the oil flow to the “Seed fan hydraulic motor”. All exhaust oil is passed through the “Oil Cooler” and returned back to the tractor.

The “Case drain hose” relieves hydraulic pressure from the hydraulic motors and the oil cooler.

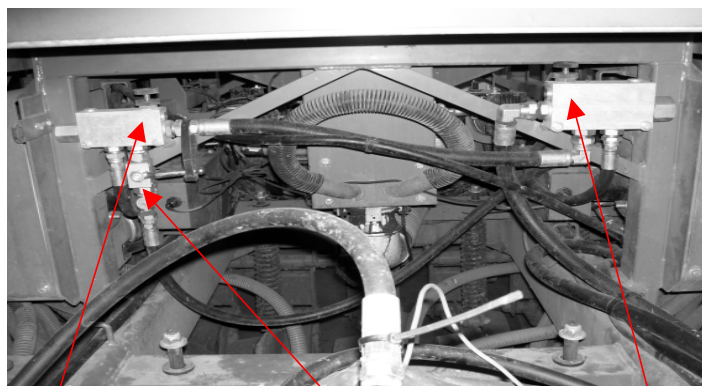
NOTE:

If the “Case drain hose” is pressurised or blocked severe damage will occur. This hose must free drain back to the tractors oil tank.

System requirements:

Continuous hydraulic oil supply, 25l/m @ 2200psi min.

(One hydraulic bank with lever lock on, **motor spool** setting.)



Small Flow Control Valve

Ball Valve CLOSED

Big Flow Control Valve

SETTING THE HYDRAULIC FAN DRIVE

1. Ensure that the “Case drain hose” is connected.
2. Ensure that the hydraulic feed and return lines are connected.
3. Ensure that the “Eagle Seeder Console” is turned on.
4. Ensure that the tractors hydraulic bank has it spool set to **motor setting**.

NOTE:

Connect the “Hydraulic fan drive” to a priority bank on the tractor, as it is important that the fans maintain a constant speed.

NOTE:

If the hydraulic oil is passed through the system the wrong way the fans will not turn and all the oil will pass back down the “Case drain hose”; DAMAGE may occur if this is prolonged.

FIRST INITIAL SETUP.

Close the “Big flow control valve” (screwed in) and have the “Small flow control valve” open one turn.

With the “AUX 1” switch **down** on the “Eagle Seeder Console” adjust the “Small flow control valve” until you have the desired fan RPM (2400); lock this valve with nut.

With the “AUX 1” switched **up** on the “Eagle Seeder Console” adjust the “Big flow control valve” until you have the desired fan RPM (2700); lock this valve with nut.

After the fan speeds have been set to their desired speeds, the tractors oil flow can be adjusted so it delivers **just** enough oil through its hydraulic remote to run the fans. This will ensure that the tractor has enough oil in reserve to run all the other hydraulic systems on the seed drill.

NOTE

This system can be used with “Open Centre” or “Closed Centre” hydraulic system.

For “Open Centre” systems have Ball Valve OPEN.

For “Closed Centre” systems have Ball Valve CLOSED.

See above page for Ball Valve.

GENERAL MAINTENANCE

The SKA-2122 seed drill has been designed with minimal maintenance in mind reducing down time and increasing productivity. However close observation should be kept on all moving parts, this will prevent costly repairs in the long run.

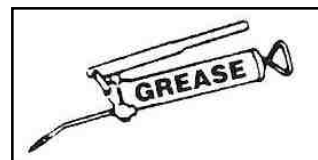
MACHINE GREASE POINTS

Grease Points.	No. of Nipples.	Greasing Regularity.
Rear Axle Main Pivot	2	10 hours
Rear Hydraulic Rams	2	10 hours
Drawbar Main Pivot	2	10 hours
Stabiliser Wheels	2	100 hours

Keep all adjustment threads corrosion free by periodically coating with copper coating. (Grease tends to attract dust).

Greasing location points are labelled on the drill with "GREASE" decal as shown.

Chains should be kept lubricated with chain oil and should be thoroughly cleaned once a season.



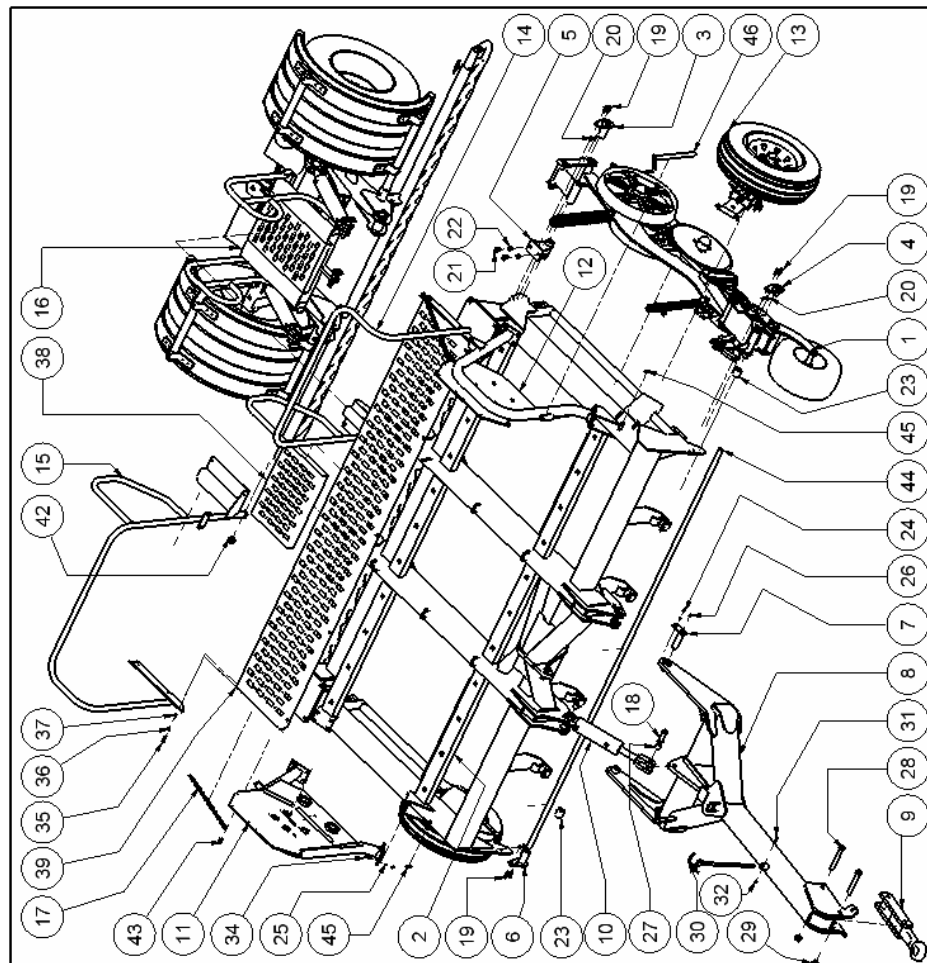
All the Discs and Press Wheels should be checked daily for any sign of play in their bearings and adjusted if needed to prevent costly bearing replacement.

Check that all Dust Caps are in place and replace if damaged or missing.

Check the Press Wheel Pivot Arms for side-ways movement and tighten their pivot bolts when needed.

SKA2122 FRAME ASSEMBLY & PARTS

1	1	Complete Dragarm Assembly	A3720
2	1	3m Seeding Main Frame	A3701
3	2	Rear Dragarm Stop Assembly	A3700-11
4	1	Front Dragarm Short End Spacer	A3700-15
5	10	Rear Dragarm Spacer Assembly	A3700-21
6	1	Front Dragarm Long End Spacer	A3700-31
7	2	Drawbar Pivot Pin Assembly	A3715
8	1	Drawbar Assembly	A3715
9	1	Tow Eye Assembly	A3716
10	1	4" x 8" Double Clevis Ram	A3700-50
11	1	Drive End Panel Assembly	A3702
12	1	Non Drive End Panel Assembly	A3703
13	2	Complete Stabiliser Leg Assembly	A3707
14	1	Main Treadboard LH Safety Rail Assembly	A3706L
15	1	Main Treadboard RH Safety Rail Assembly	A3706R
16	1	Rear Axle Assembly and Parts.	A3710
17	2	Main Treadboard Chain M6 MS @ 650mm	A3700-51
18	2	1" Lyco Ram Pin	A23187
19	8	M12 x 35 Bolt	8510H
20	8	M 12 Nylock Nut	9151
21	20	M16 x 40 Bolt	8602H
22	20	M16 Nyloc Nut	16A
23	10	Front Dragarm Spacer	A3700-52
24	15	M10 x 20 Bolt	8419H
25	33	10mm Spring Washer	9041
26	2	M6 Staight Grease Nipple	9323
27	2	1" x 1 1/4" Hardened Bush	A2249-12
28	2	Drawbar Tow Eye Bolt	A3700-53
29	2	M24 Nylock Nut	9198
30	1	Hydrolic Hose Pig Tail Pole	A23188-14/15
31	1	M6 x 45 Bolt	8203H
32	1	M6 Nylock Nut	9109
33	31	M10 Nut	9141
34	16	M10 x 30 Bolt	8415H
35	2	M10 x 40 Bolt	8416H
36	2	10mm HD Flat Washer	9040
37	2	M10 Nylock Nut	9142
38	1	Rear Centre Tread Board	A3700-54
39	1	440 x 60 x 3m Tread Board	A3700-55
40	1	Main Treadboard Stiffener	A3700-56
41	4	M10 x 25 Bolt	8418H
42	2	Plastic Spring End	A2250-03
43	2	M6 MS D Shackle	9285
44	2	Dragarm Main Pivot Bar	A3700-57
45	2	8mm Lynch Pin	9291
46	1	Stabiliser Wheel Crank	A3707-01



AITCHISON INDUSTRIES

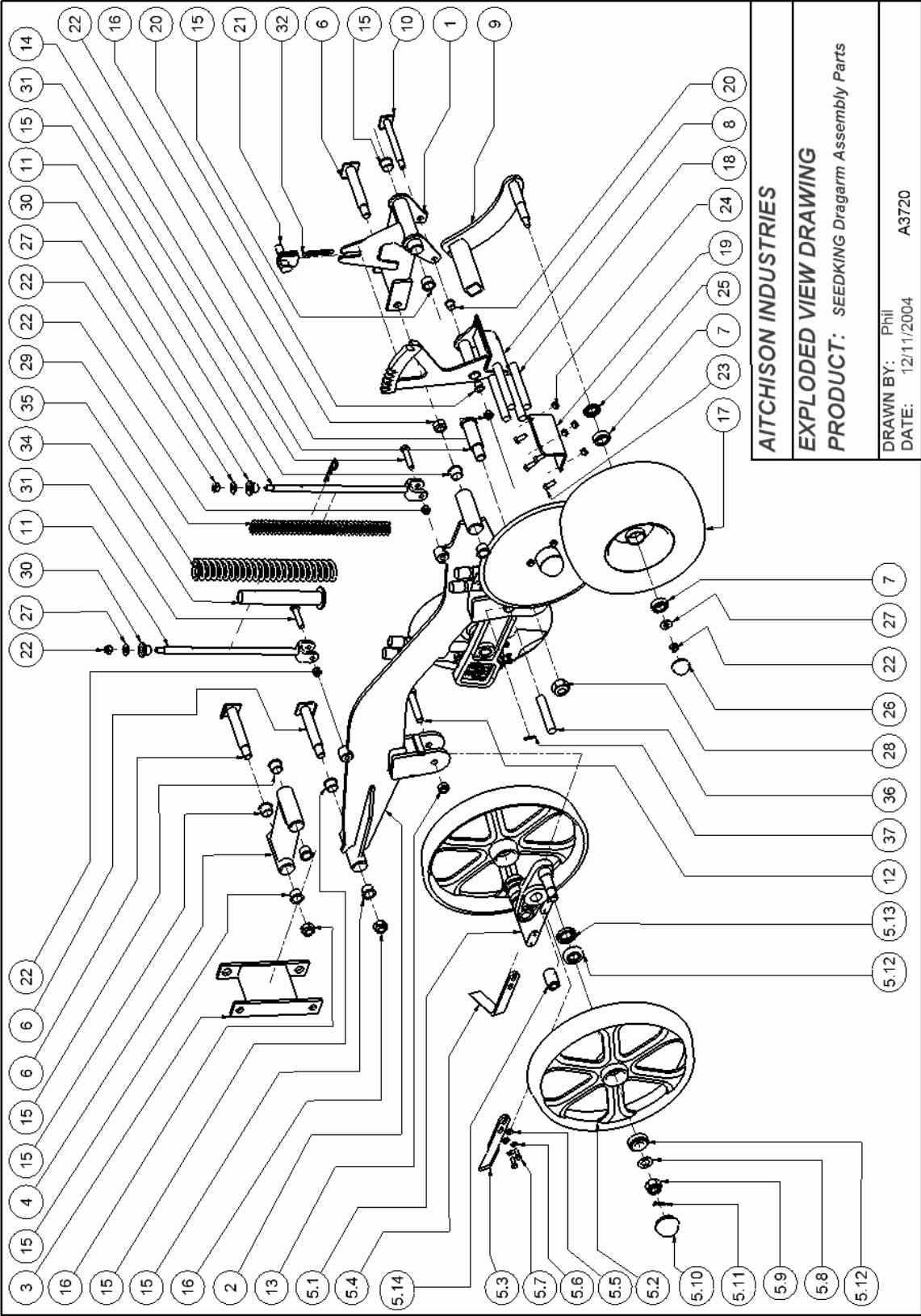
EXPLODED VIEW DRAWING

PRODUCT: SEEDKING Frame Assembly and Parts

DRAWN BY: Phil
DATE: 3/12/2004

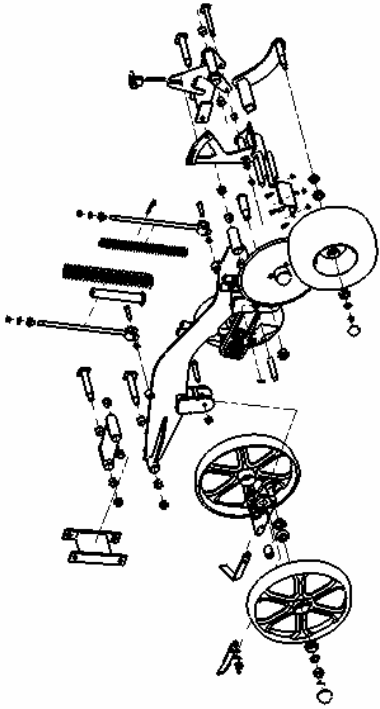
A3700

SKA2122 DRAGARM PARTS



SKA2122 DRAGARM PART NUMBERS

Parts List				Parts List			
ITEM	QTY	Description	Part Number	ITEM	QTY	Description	Part Number
1	1	Front Arm Assembly	A3721	14	1	Disc Pivot Pin	A3720-31
2	1	Dragarm Assembly	A3722	15	10	FMB 3026DU	A3720-40
3	1	Rear Link	A3723	16	3	M24 Nylock Nut	9198
4	1	Rear Pivot	A3720-20	17	1	18.5 x 8.50-8 Wheel	A3729
5.1	1	Press Wheel Arm Assembly	A3724	18	4	Packer Wheel Duratorque Rubber	A3720-32
5.2	2	Cast Press Wheel Machined	A3720-10	19	1	Packer Wheel Duratorque Plate	A3725-03
5.3	1	Press Wheel Mud Scraper RH	A3720-01	20	2	FMB 2021.5DU	A3710-52
5.4	1	Press Wheel Mud Scraper LH	A3720-02	21	1	Packer Wheel Arm Lock	A3720-33
5.5	4	10mm HD Flat Washer	9040	22	6	M16 Nyloc Nut	16A
5.6	4	10mm Spring Washer	9041	23	4	M12 x 30 Bolt	8523H
5.7	4	M10 x 30 Bolt	8415H	24	4	M 12 Nylock Nut	9151
5.8	2	27mm Flat Washer	A3719-02	25	1	30 x 52 x 7 Seal	9235
5.9	2	M27x3 Castle Nut	91935	26	1	52mm Cap	A4623
5.10	2	62mm Plastic Cap	A3719-03	27	3	16mm Thick Flat Washer	9062
5.11	2	5 x 50 Split Cotter Pin	9277	28	1	M30x3.5 Nylock Nut	9199
5.12	4	HR 32206 Taper Roller Bearing	92101	29	1	Dragarm Front Spring	A3720-34
5.13	2	40 x 62 x 7 Seal	92321	30	2	Push Rod Spring Bush	A23211
5.14	1	Bush DRR5495 - Seeding	92102	31	2	M16 x 75 Bolt	8617H
6	3	Pivot Pin Assembly	A3720-05	32	1	Gearbox Spring	A23104
7	2	6205 Bearing	9212	33	1	Mk2 Disc Pivot Arm Assembly	A3718
8	1	Packer Wheel Duratorque Pivot	A3725	34	1	Dragarm Rear Spring Stop Assembly	A3728
9	1	Packer Wheel Arm Assembly	A3726	35	1	Dragarm Rear Spring	A3720-35
10	1	Packer Wheel Pivot Pin Assembly	A3720-15	36	1	Dragarm Disc Arm Pivot Rubber	A3720-36
11	2	Push Rod Assembly	A3727	37	2	Dragarm Disc Arm Pivot Rubber Lock Pin	A3720-37
12	1	M20 x 110 Bolt	8715H	38	1	5mm R Clip	9289
13	1	M20 Nylock Nut	9172				



AITCHISON INDUSTRIES
EXPLODED VIEW DRAWING
PRODUCT: SEEDKING Dragarm Assembly Parts

DRAWN BY: Phil
DATE: 15/11/2004 A3720

Parts List			
ITEM	QTY	DESCRIPTION	PART NUMBER
1	2	MK2 Disc Arm	A3718-01
2	1	Disc Pivot Shield Assembly	A3718-11
3	2	Disc Hub Trash Shield	A3718-21
4	1	LH S/S Fertiliser Tube	A3718-60
5	1	RH S/S Fertiliser Tube	A3718-61
6	4	HR 32206 Taper Roller Bearing	92101
7	2	Disc Hub	A3719-01
8	2	40 x 62 x 7 Seal	92321
9	2	27mm Flat Washer	A3719-02
10	2	M27x Castle Nut	91935
11	2	5 x 50 Split Cotter Pin	9277
12	2	65mm Plastic Cap	A3719-03
13	2	6208 Bearing	92031
14	1	Disc Pivot Pin Spacer	A3719-04
15	1	LH Boot Pivot Assembly	A3719-21
16	1	LH Boot	A3719-25
17	1	RH Boot Pivot Assembly	A3719-31
18	1	RH Boot	A3719-35
19	2	450mm 3 Stud Disc	A3719-07
21	6	12mm Spring Washer	9052
22	6	M12 x 20 Bolt	8532H
23	6	M8 x 16 Counter Sunk Cap Screw	8320
24	4	M 12 x 20 Bolt Stainless Steel	8532 S
25	2	Boot Mount Lock Washer	A3719-09
26	2	16mm Spring Washer	9061
27	2	M16 x 40 Bolt	8602H
28	2	Couller Boot Mount Pin	A3719-10
29	2	5 x 30 S/S Roll Pin	9257 S
30	2	Fert Tube Clamp LH	A3719-12
31	2	Fert Tube Clamp RH	A3719-13
32	2	M8 x 45 Stainless Coach Bolt	8303 S
33	2	M8 S/S Nylock Nut	1905 S
34	1	Couller Boot Mount RH	A3719-06
35	1	Couller Boot Mount LH	A3719-05
36	4	Fert Tube Rivet Insert	A3718-70
37	4	4.8 x 17 S/S Pop Rivet	9309

AITCHISON INDUSTRIES
EXPLODED VIEW DRAWING
PRODUCT: SeedKing Disc Pivot Arm Assembly

DRAWN BY: Phil
 DATE: 16/10/2006
 A3718

SKA2122 STABILISER WHEEL PARTS

Parts List			Part Number	
ITEM	QTY	Description	Part Number	
1	1	Stabiliser Wheel Slide Mount Assembly	A3708	
2	1	Stabiliser Wheel Axle Slide Assembly	A3709	
3	1	Trojan 5 Stud Hub Kit	TR082030	
3.1	1	Trojan 5 Stud Wheel Hub	TR082030-07	
3.2	1	Trojan Hub Cap	TR082030-02	
3.3	5	Trojan 1/2" Wheel Stud	TR082030-06	
3.4	5	Trojan 1/2" Wheel Nut	TR082030-05	
3.5	1	Trojan Hub Seal	TR082030-01	
3.6	1	Trojan Wheel Bearing Outer LM11949	TR082030-03	
3.7	1	Trojan Wheel Bearing Inner LM67048	TR082030-04	
4	1	14" Wheel Assembly	A23184	
5	1	Stabiliser Wheel Adjustment Thread	A3707-11	
6	2	3/4" x 1.6 ZP Flat Washer	9083	
7	1	Stabiliser Wheel Adjustment Thread Keeper	A3707-12	
8	2	6 x 30 Roll Pin ZP	9250Z	
9	1	Stabiliser Wheel Axle Trunnion	A3707-13	
10	1	M16 x 150 Bolt	8618H	
11	1	M6 Grease Nipple Straight	9323	
12	1	Linch Pin 11mm	9288	
13	1	Decal - Depth Gauge 1-8	D2242	
14	1	Stabiliser Wheel Lock Pin	A3707-14	
15	1	M16 Nyloc Nut	16A	
16	1	10 x 40 Roll Pin ZP	9254Z	

AITCHISON INDUSTRIES

EXPLODED VIEW DRAWING

PRODUCT: SEEDKING Stabiliser Wheel Parts

DRAWN BY: Phil
DATE: 30/11/2004

A3707

SKA2122 REAR AXLE PARTS

Parts List		
ITEM	QTY	Description
1	1	Rear Axle Assembly
2	2	Transport Wheel 400/60x15.5 AW
3	1	Rear Tow Hitch Assembly
4	1	Rear Tow Hitch Pivot Pin
5	1	Rear Hitch Link Assembly
6	2	Rear Hitch Link Pin Assembly
7	2	Rear Axle Pivot Pin Assembly
8	1	Rear Lock Assembly
9	1	Rear Axle Lock Lever
10	1	Harrow Assembly
11	1	Harrow Adjustable End RH
12	1	Harrow Adjustable End LH
13	2	Stand Lock
14	2	12" x 2.5" Rear Transport Ram
15	2	1" Lycro Ram Pin
16	2	Rear Axle Top Ram Pin Assembly
17	6	FMB 2021.5DU
18	3	M16 Nyloc Nut
19	3	M10 x 30 Bolt
20	8	M10 Nylock Nut
21	4	M6 Grease Nipple Straight
22	4	FMB 3526DU
23	8	M10 x 20 Bolt
24	8	10mm Spring Washer
25	2	Plastic Mudguard 900 x 520
26	2	Rear Axle Mud Guard Front Pole
27	2	Rear Axle Mud Guard Rear Pole
28	4	M10 x 75 Bolt
29	8	Plastic Mudguard Mount (BK-P300BK1)
30	2	8 x 40 Roll Pin
31	1	M10 x 100 Bolt
32	4	M12 x 40 Bolt
33	4	M 12 Nylock Nut
34	22	Harrow Chain M12 @ 500mm
35	1	Rear Centre Tread Board
36	4	M10 Nut
37	2	1" x 1 1/8" Hardend Bush

AITCHISON INDUSTRIES

EXPLODED VIEW DRAWING

PRODUCT: SEEDKING Rear Axle Assembly Parts

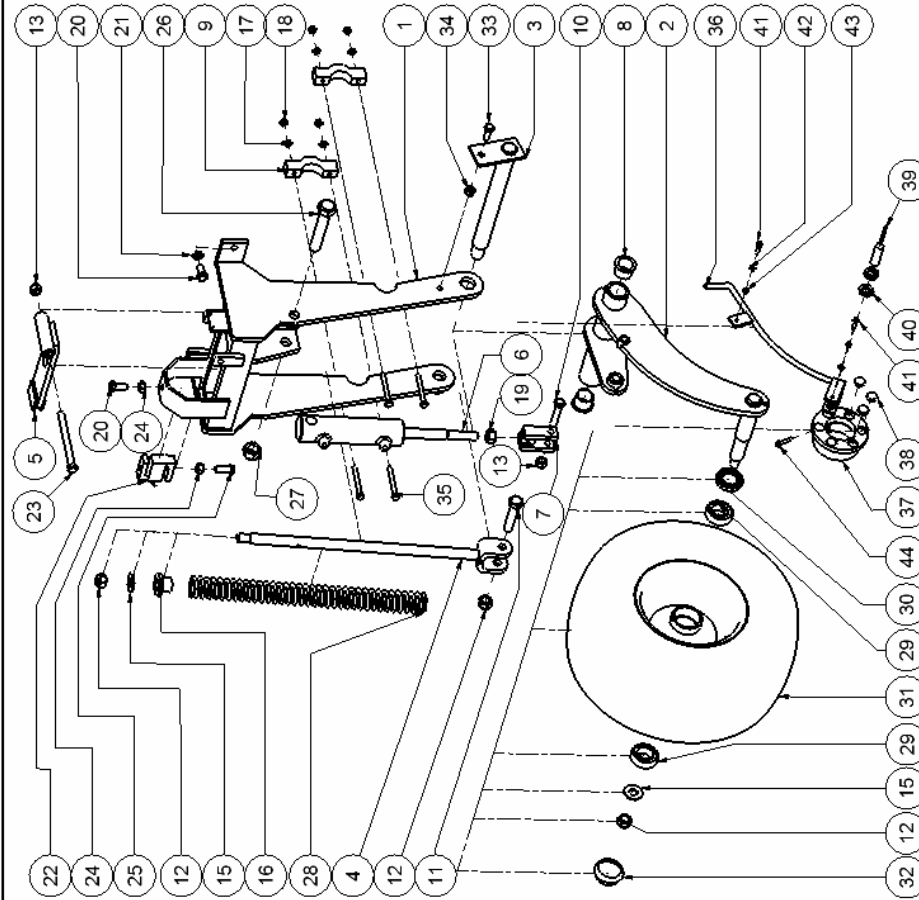
DRAWN BY: Phil

DATE: 1/12/2004

A3710

SKA2122 DEPTH CONTROL WHEEL PARTS

ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Depth Control Wheel Mount Assy	A3761
2	1	Depth Control Wheel Arm Assy	A3762
3	1	Depth Control Wheel Pivot Pin Assy	A3760-01
4	1	Push Rod Assembly	A3727
5	1	Load Cell Hinge Plate Assembly	A3763
6	1	Ram - Clutch 1.5"x3/4"x 90mm	A5130-11
7	1	Depth Control Wheel Ram Clevis	A3760-03
8	2	FMB 3026DU	A3720-40
9	2	Depth Control Wheel Clamp	A3761-03
10	1	M12 x 60 Bolt	8528H
11	1	M16 x 75 Bolt	8525H
12	3	M16 Nylock Nut	16A
13	2	M12 Nylock Nut	9151
14	1	M24 Nylock Nut	9198
15	2	16mm Thick Flat Washer	9062
16	1	Push Rod Spring Bush	A23211
17	4	8mm Spring Washer	9030
18	4	M8 Nut	9105
19	1	M16 Nut	9161
20	3	M12 x 25 Bolt	8527H
21	2	12mm Spring Washer	9052
22	1	PT4000-500kg Load Cell	A3760-05
23	1	M12 x 140 Bolt	8514H
24	2	M12 Nut	9152
25	1	Load Cell Load Bolt	A3760-06
26	1	M20 x 110 Bolt	8716H
27	1	M20 Nylock Nut	9172
28	1	Dragarm Front Spring	A3720-34
29	2	6205 Bearing 2RS	9212
30	1	30 x 52 x 7 Seal	9235
31	1	18.5 x 8.50-8 Wheel (Hard filled to: 6psi)	A3760-07
32	1	52mm Cap	A4623
33	1	M10 x 30 Bolt	8415H
34	1	M10 Nylock Nut	9142
35	4	M8 x 75 Bolt	8411H
36	1	Wheel Speed Sensor Mount Assembly	A3764
37	1	Depth Wheel Magnet Mount	A3764-05
38	6	Wheel Magnet (set of 10)	A3730-22
39	1	Speed Sensor	A3730-25
40	2	Sensor Nut (supplied with Sensor)	See Above
41	2	M6 x 25 Bolt	8213 H
42	2	6mm Spring Washer	9021
43	2	M6 Nut	9121
44	1	M6 x 30 S-S Cap Screw	8223 S



AITCHISON INDUSTRIES

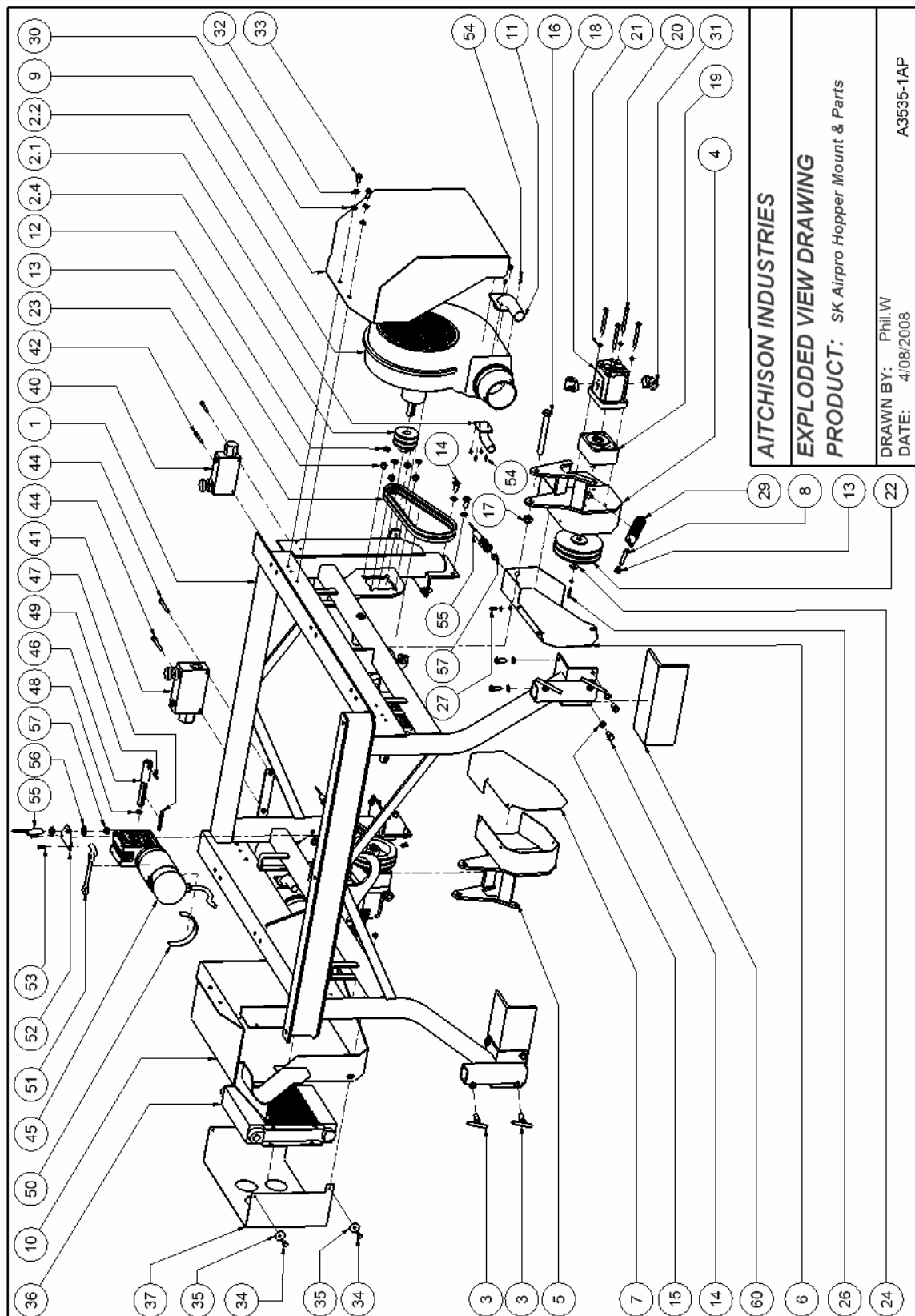
EXPLODED VIEW DRAWING

PRODUCT: SEEDKING Depth Control Wheel Assy

DRAWN BY: Phil
DATE: 7/12/2006

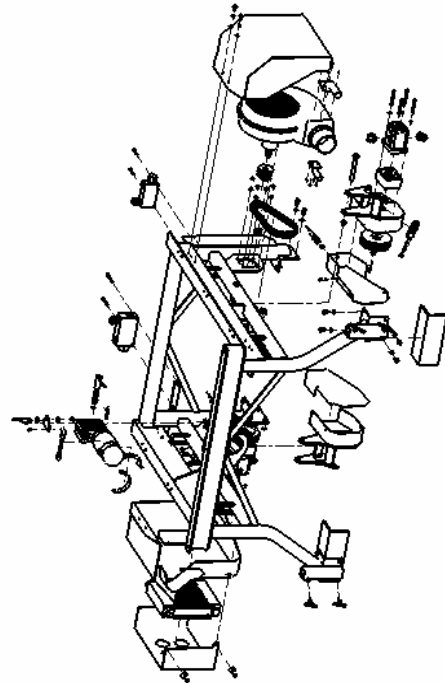
A3760

SKA2122 HOPPER MOUNT & PARTS



SKA HOPPER MOUNT PART NUMBERS

Parts List			Parts List			Parts List					
ITE	QT	DESCRIPTION	PART NUMBE	ITE	QT	DESCRIPTION	PART NUMBE	ITE	QT	DESCRIPTION	PART NUMBE
1	1	3m Frame Hopper Mount Assembly	A3780	18	2	Gear Motor 8cc Bi-directional	A3597-03	39	8	M8 Nylock Nut	9105
2	2	Fan Assembly	See Below	19	2	Outrigger Bearing Assembly	A3597-01	40	1	3/8" 3 Port PC Flow Control	A3700-42-6
2.1	1	Small Tube Assembly	A3781	20	8	M8 x 80 Bolt	8316H	41	1	1/2" 3 Port PC Flow Control	A3700-42-7
2.2	1	Fan Assembly	A3577	21	10	8mm Spring Washer	9030	42	2	M6 x 55 Bolt	8211H
2.3	1	Fan Bearing Mount	A3577-76	22	2	150mm Drive Pulley	A3787	43	6	M6 Nylock Nut	9109
2.4	1	Fan Drive Pulley 74mm	A3577-52	23	4	A 30 (762mm) V Belt	152-AP	44	2	M8 x 70 Bolt	8319H
3	4	Stand Lock	A5174	24	2	150mm Drive Pulley Washer	A3788	45	2	Seedrate Motor & Gearbox 60to1	A3730-20
4	1	Hydraulic Motor Mount LH	A3782L	25	8	6mm Spring Washer	9021	46	2	Seed - Fert Drive Shaft	A3790
5	1	Hydraulic Motor Mount RH	A3782R	26	2	M6 x 25 Bolt	8213H	47	2	M6x6 Key	A3730-05
6	1	Hydraulic Motor Drive Cover LH	A3785L	27	6	M6 x 16 Bolt	8208H	48	2	18mm External Circlip	92455
7	1	Hydraulic Motor Drive Cover RH	A3785R	28	10	6mm Flat Washer	9077	49	2	6 x 30 Roll Pin	9250Z
8	2	Hydraulic Motor Tensioner	A3783	29	2	Return Spring	A8020-03	50	2	Seedrate Motor Rubber	A3793
9	1	Fan Cover Assembly LH	A3784L	30	6	10 mm Flat Washer	9042	51	2	Rubber Hold-down Latch 120mm	00844
10	1	Fan Cover Assembly RH	A3784R	31	4	Gear Motor Port Adaptor 1/2"	A3597-04	52	2	SK Airpro Shaft Sensor Mount	A3791
11	2	35mm Delivery Tube Assembly	A3577-01	32	4	10mm Spring Washer	9041	53	4	M6x20 Bolt	8205H
12	8	10mm HD Flat Washer	9040	33	4	M10 x 20 Bolt	8419H	54	16	Screw 10g x 1/2" ZP Pan Pozl	8903
13	10	M10 Nylock Nut	9142	34	6	M8 x 20 Bolt	8311H	55	4	Speed Sensor	A3703-25
14	16	M12 x 25 Bolt	8527H	35	6	8mm Fender Washer	9032	56	8	Sensor Nut (supplied with Sensor)	See Above
15	16	12mm Spring Washer	9052	36	1	Oil Cooler	A3700-42-5	57	4	Magnetic Block	A3730-23
16	2	M16 x 140 Bolt	8607H	37	1	Cooler Cover	A3700-42-6	58	4	M8 x 25 Bolt	8305H
17	2	M16 Nyloc Nut	16A	38	6	M8 Nut	9106	59	8	8mm Flat Washer	9031
								60	2	Frame Rear Hopper Mount	A3792



AITCHISON INDUSTRIES

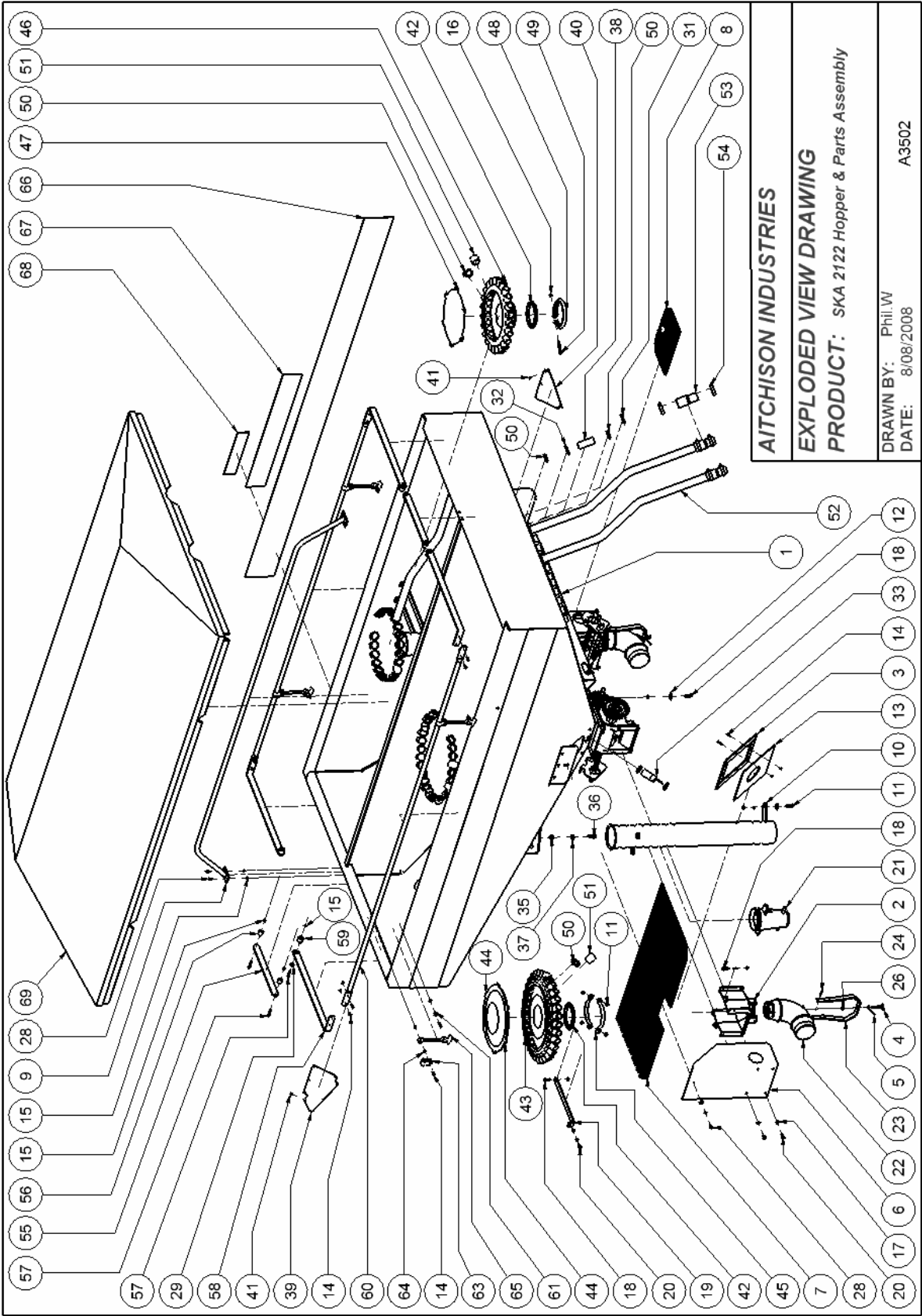
EXPLODED VIEW DRAWING

PRODUCT: SK Airpro Hopper Mount & Parts Numbers

DRAWN BY: Phil.W
DATE: 5/08/2008

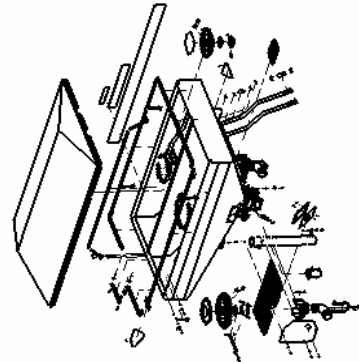
A3515-1AP

SKA HOPPER & PARTS



SKA HOPPER & PART NUMBERS

Parts List				Parts List				Parts List			
ITE	QTY	DESCRIPTION	PART NUMBER	ITE	QTY	DESCRIPTION	PART NUMBER	ITE	QTY	DESCRIPTION	PART NUMBER
1	1	Air Pro Hopper Assembly	A3598	24	4	M5 x 25 S/S Bolt	8204 S	47	1	Distributor 24 Plastic Lid	A3577-97
2	2	Metering Unit Assembly	A3577-88	25	4	M5 S/S Nylock Nut	9102 S	48	1	Distributor Plastic Clamp	A3577-98
3	2	Flange Assembly	A3575-07	26	2	M8 S/S Dome Head Nut	9107 S	49	1	M8 x 60 S/S Bolt	8312S
4	2	Difusor Locking Bolt	A3577-89	27	24	6mm S/S Flat Washer	9023 S	50	132	Hose Clamp 25-40mm S/S	A3575-38
5	2	Difusor Locking Nut	A3577-90	28	6	M6 x 16 S/S Bolt	8224 S	51	12	Plug For Distributor	A3577-40
6	2	Difusor Plain Cover Assembly	A3577-91	29	6	6mm S/S Fender Washer	9022 S	52	4	32mm Airseeder Hose P/M	A3584
7	1	Fert Top Grill Ring Assembly	A3575-04	30	2	6mm S/S Spring Washer	9021 S	53	44	Rubber Reducer	A3587
8	1	Seed Bottom Grill Ring Assembly	A3575-16	31	20	38mm Rubber Body Plug	A3575-32	54	88	Hose Clamp 33-57mm S/S	A3589
				32	44	31.7 x 38.1 Rubber Gromment	A3575-33	55	2	Soft Top Side Rail	A3575-40
9	1	Soft Top Centre Rail Assembly	A3575-01	33	2	Bin level Sensor	A3730-30	56	4	Soft Top Side Rail Boss	A3575-41
10	2	Tube 830 CHD	A3591	34	4	Bin level Sensor Nut	See Above	57	8	M6 x 40 S/S Bolt	A3575-42
11	6	M8 x 30 S/S Bolt	8301 S	35	9	M12 Nylock Nut	9151	58	4	Soft Top Front Rail Side Plate	A33575-05
12	8	8mm S/S Fender Washer	9032 S	36	9	M12 x 30 Bolt	8523H	59	4	Soft Top Hinge	A3575-43
13	2	Difusor Tube Rubber Seal	A3575-06	37	9	12mm HD Flat Washer	9053	60	2	Soft Top Front Rail	A3575-03
14	32	M6 x 20 S/S Bolt	8205 S	38	44	32mm Pipe Sleeve	A3575-34	61	4	Soft Top Catch	A3575-44
15	48	M6 S/S Nylock Nut	9109 S	39	1	Air Pro Hopper LH PlankOff Plate	A3575-35	62	4	M6 x 30 S/S Bolt	8212 S
16	39	M8 S/S Nylock Nut	9105 S					63	4	Soft Top Front Rail Clamp Plate	A3575-45
17	32	8mm S/S Flat Washer	9031 S	40	1	Air Pro Hopper RH PlankOff Plate	A3575-36	64	4	Soft Top Front Rail Clamp Plate	A3575-46
18	20	M8 x 25 S/S Bolt	8305 S							Spacer	
19	4	Tube 830 CHD Mount	A3577-25	41	16	4.8 x 12 S/S Rivet	9303	65	4	Rubber Hold-down Latch 120mm	00844
20	12	M8 x 20 S/S Bolt	8311 S	42	2	Sealing Plastic	A3577-29	66	2	Decal - Yellow Panel Label 2.5m	D1509
21	2	Difusor	A3577-31	43	1	Distributor 32 Aluminium	A3525	67	1	Decal - SEEDKING Professional	D2281
22	2	Fan Main Elbow Short	A3577-30	44	1	Distributor 32 Aluminium Lid	A3577-23	68	1	Decal - SKA 2122	A3575-47
23	2	Holder For Difusor Short	A3577-27A	45	2	Distributor Half Clamp	A3577-95	69	1	Air Pro Hopper Soft Top	A3575-48
				46	1	Distributor 24 Plastic	A3577-96				



AITCHISON INDUSTRIES

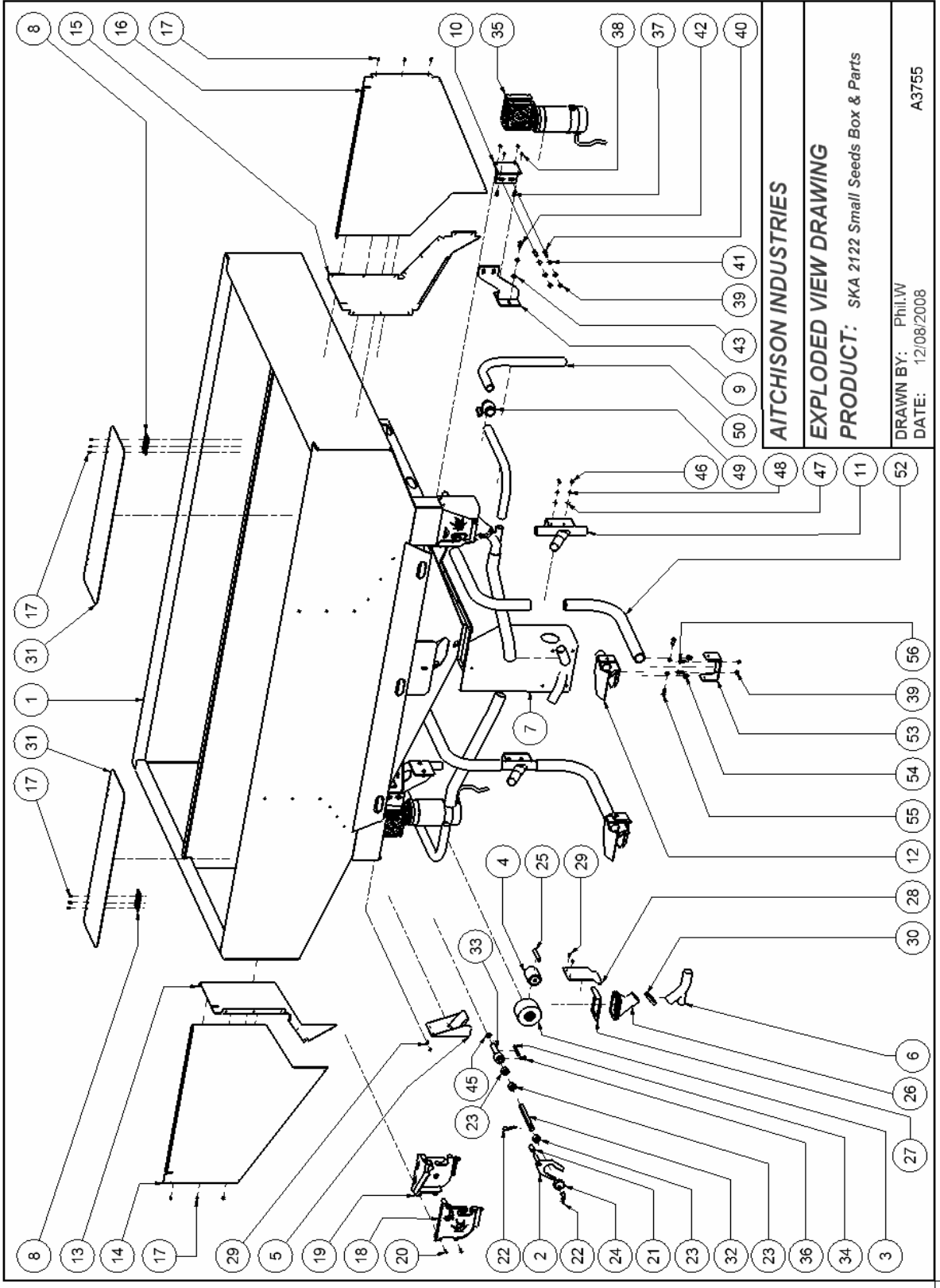
EXPLODED VIEW DRAWING

PRODUCT: SKA 2122 Hopper & Part Numbers

DRAWN BY: Phil.W
DATE: 11/08/2008

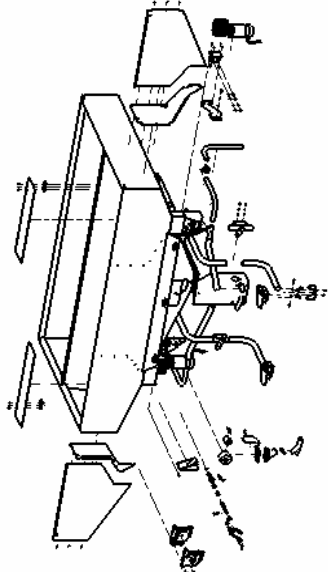
A3502

SKA SMALL SEED BOX & PARTS



SKA SMALL SEED BOX PART NUMBERS

Parts List				Parts List			
ITEM	QTY	DESCRIPTION	PART NUMBER	ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Air Pro Hopper Assembly	A3598	29	8	Screw 10g x Half Inch S/S Pan Poz	8903 S
2	2	Agitator Arm Assembly	A2292-01	30	2	Grey Clip 35mm	A2370
3	2	Large Drive Roller	A2292-09	31	2	Small Hopper Lid	A2375
4	2	Small Idler Roller	A2292-05	32	2	Small Seed Drive Shaft	A3778
5	2	Small Seed Unit Cover Assembly	A3757	33	2	Small Seed Motor Drive Shaft	A3777
6	2	Small Seed Induction Tube Assembly	A3758	34	2	M6x6 Key	A3730-05
7	1	Diffuser Cover Assembly	A3759	35	2	Seedrate Motor & Gearbox 60to1	A3730-20
8	4	3" x 2" S/S Butt Hinge	A23805	36	2	M8 x 20 S/S Bolt	8311 S
9	2	Small Seed Motor Bracket Assembly	A3765	37	8	M6x20 Bolt	8205H
10	2	Small Seed Motor Mount Assembly	A3766	38	8	M6 Nylock Nut	9109
11	2	Venturi Assembly (4132)	A3577-04	39	12	M8 Nylock Nut	9105
12	2	Front Deflector Pipe Assembly	A3767	40	4	M8 x 30 Bolt	8301H
13	1	Small Hopper RH Inner Plate	A3768R	41	8	8mm Flat Washer	9031
14	1	Small Hopper RH Rear Plate	A3769R	42	4	M10 x 20 Bolt	8419H
15	1	Small Hopper LH Inner Plate	A3768L	43	4	10 mm Flat Washer	9042
16	1	Small Hopper LH Rear Plate	A3769L	44	4	10mm Spring Washer	9041
17	68	4.8 x 12 S/S Rivet	9303	45	2	18mm External Circlip	92455
18	2	Fert Unit LH Side	A2292-14	46	4	M6 x 16 Bolt	8208H
19	2	Fert Unit RH Side	A2292-15	47	4	6mm Flat Washer	9023
20	6	8g x 1" Pan Head Pozl Z-P Screw	8901	48	4	6mm Spring Washer	9021
21	2	Fert Unit Agitator Spacer	A2292-08	49	2	25mm Compact Ball Valve	A2370-02
22	4	3mm S/S R Clip	9292	50	4	25mm Flexi Hose	A2370-01
23	5	Fert Unit Shaft Bush	A2292-06	52	4	35mm Seed Dropper Hose P/M	A2384-01
24	2	Agitator Cam	A2292-04	53	2	Front Deflector Single Mount Plate	A3779
25	2	Small Roller Idler Axle	A2292-11	54	4	Spacer 10mm	A23142-01
26	2	Fert Cup Angled Square	A2290-13	55	4	M8 x 25 Bolt	8305H
27	2	Fertiliser Cup Plate	A2292-12	56	4	M8 x 20 Bolt	8311H
28	2	Small Seed Unit Inside Cover	A3771				



AITCHISON INDUSTRIES

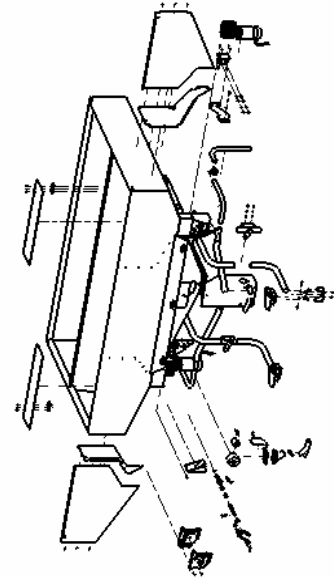
EXPLODED VIEW DRAWING

PRODUCT: SK 2122 Small Seeds Box Part Numbers

DRAWN BY: Phil W

DATE: 12/08/2008

A3755



AITCHISON INDUSTRIES

EXPLODED VIEW DRAWING

PRODUCT: SK 2122 Small Seeds Box Part Numbers

DRAWN BY: Phil.W
DATE: 12/08/2008

A3755

SKA TREADBOARD PARTS

Parts List				Parts List			
ITEM	QTY	DESCRIPTION	PART NUMBER	ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	3m Frame Hopper Mount Assembly	A3780	13	4	12mm HD Flat Washer	9054
2	1	Front RH Treadboard Mount Assembly	A3739R	14	1	440 x 60 x 2.4m Tread Board	A3700-58
3	1	Front LH Treadboard Mount Assembly	A3739L	15	24	M10 x 25 Bolt	8418H
4	1	Front Treadboard Safety Rail Assembly	A3753	16	24	10 mm Flat Washer	9042
5	1	SKA Side Step Assembly	A3741	17	24	10mm Spring Washer	9041
6	1	Side Step Mount Assembly	A3748	18	24	M10 Nut	9141
7	1	Grab Rail Assembly	A3749	19	6	10mm S/S Flat Washer	9042 S
8	1	SKA Rear LH Step Assembly	A3738L	20	6	M10 S/S Nylock Nut	9142 S
9	1	SKA Rear RH Step Assembly	A3738R	21	6	10mm S/S Fender Washer	9037 S
10	1	Stabiliser Wheel Crank	A3707-01	22	6	M10 x 25 S/S Bolt	8418 S
11	4	M12 x 35 Bolt	8510H	23	5	M12 x 25 Bolt	8527H
12	4	M12 Nylock Nut	9151	24	2	Rear Centre Tread Board	A3700-54

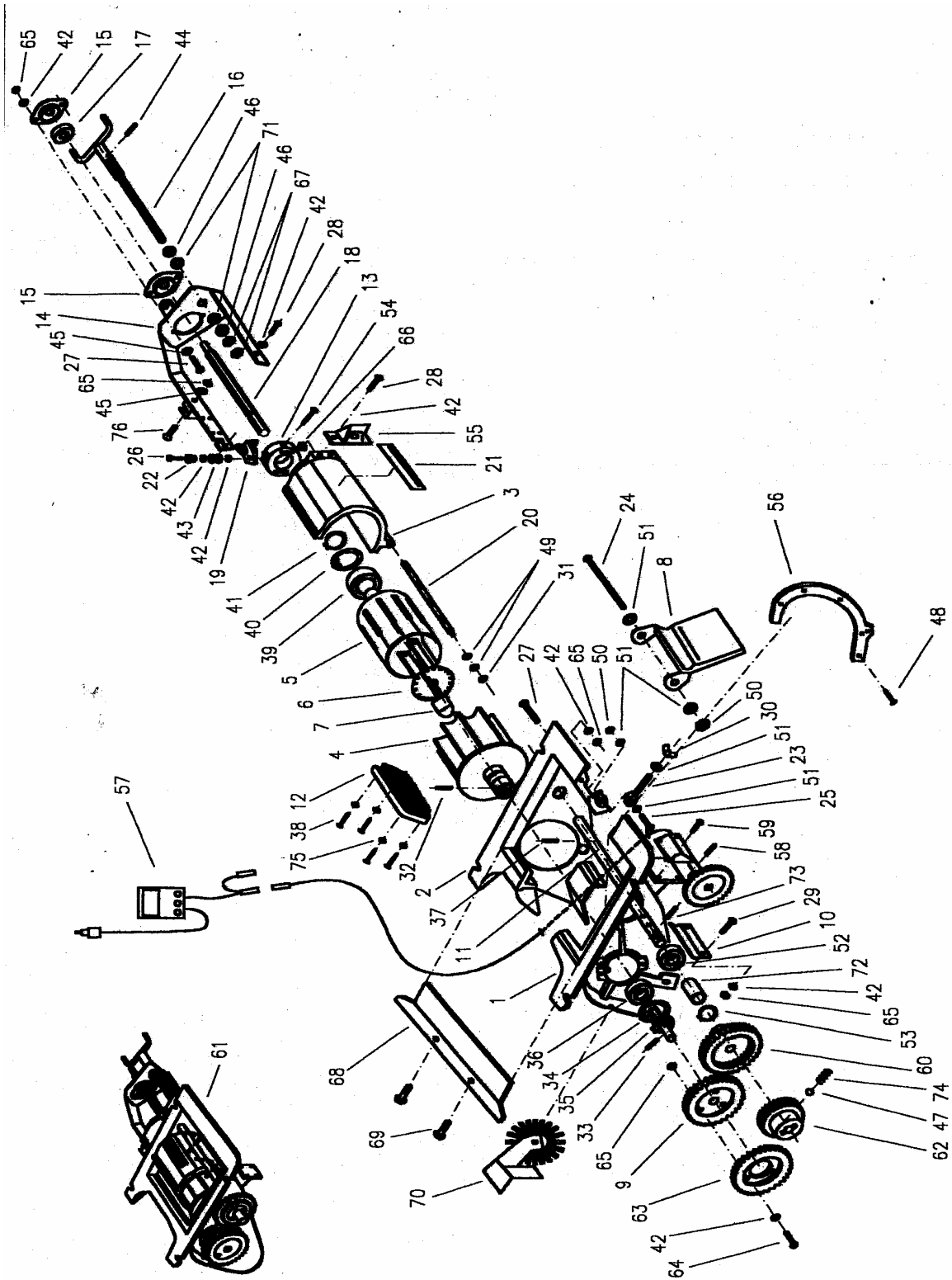
AITCHISON INDUSTRIES

EXPLODED VIEW DRAWING

PRODUCT: SKA 2122 Treadboard Parts

DRAWN BY: Phil.W
DATE: 14/08/2008

METERING UNIT PARTS



METERING UNIT PART NUMBERS

ITEM	DESCRIPTION	PART NUMBER	ITEM	DESCRIPTION	PART NUMBER
1	LH of Turnstile	A3544-01	39	Bearing 6009-2rs	A3544-54
2	RH of Turnstile	A3544-02	40	Safety Ring 75	A3544-37
3	Covering	A3544-03	41	Safety Ring 45	A3544-38
4	Cylinder	A3544-04	42	M6 Washer	9023
5	Cover	A3544-05	43	M6 Washer	9022
6	Curtain	A3544-06	44	Flexible Pin 4x32	A3544-33
7	Pin	A3544-07	45	M6 Washer	9022
8	Door	A3544-08	46	Washer 17	A3544-46
9	Wheel 19 Teeth	A3544-09	47	Metal Bullet 6.35	A3544-47
10	Scraper Rubber	A3544-10	48	Screw M3.5x16	A3544-48
11	Shaft	A3544-11	49	Washer 5.3	A3544-49
12	Brush	A3544-12	50	M8 Nut	9106
13	Sleeve	A3544-13	51	Washer 9	9032
14	Arm	A3544-14	52	Bearing 6002-2rs	A3544-55
15	Cup	A3544-15	53	Safety Ring 15	A3544-39
16	Screw	A3544-41	54	Screw M3.5x13	A3544-53
17	Bearing ay15- 2rs	A3544-59	55	Bracket	A3544-21
18	Shaft	A3544-16	56	Half-moon	A3544-22
19	Flap	A3544-17	57	El. Hecaremeter	A3544-23
20	Bold	A3544-18	58	Flexible Pin 2x16	A3544-32
21	Mark	A3544-19	59	Screw M3x6	A3544-50
22	Bush	A3544-20	60	Wheel 19 Teeth	A3544-09
23	M8 x 35 Bolt	8310H	61	Turnstile Complete	A3544
24	M8 x 160 Bolt	8319H	62	Wheel 14 Teeth	A3544-26
25	M8 x 40 Bolt	8309H	63	Wheel 28 Teeth	A3544-27
26	M4 x 20 Screw	8200H	64	M6 x 20 Bolt	8205H
27	M6 x 20 Bolt	8205H	65	M6 Washer	9022
28	M6 x 18 Screw	8221H	66	M6 Nut	9121
29	M6 x 20 Bolt	8205H	67	M18 Nut	to-202106
30	M8 Nut	9106	68	Cover AL	A3544-28
31	M5 Nut	9102	69	Screw M2.2x6	A3544-57
32	Flexible Pin 6x36	A3544-34	70	Rotary Brush	A3544-29
33	Flexible Pin 6x45	A3544-35	71	Washer 17	A3544-46
34	Safety Ring 47	A3544-42	72	Bearing	A3544-56
35	Safety Ring 25	A3544-73	73	Flexible Pin 5x25	A3544-31
36	Bearing 6005-2rs	A3544-38	74	Thrust Spring	A3544-30
37	Flexible Pin 5x50	A3544-36	75	Washer 4.3	A3544-52
38	Screw M3.9 x 22	A3544-45	76	M6 x 20 Bolt	8205H