HybridMK2

Cubicle Bedding Dispenser

Operation Manual

Models AG125, AG150, AG175 & AG200

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CE

We hereby certify that the following machinery complies with the essential health and safety requirements of these directives:

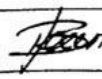
Machinery directive 2006/42/EC, and its amending directives.

Unit description: A steel galvanised hopper designed for attaching on the tractor rear linkage, front loader or materials handling system. The unit incorporates a combination of hydraulic and mechanical drive systems, for distribution of bulk bedding materials into livestock husbandry buildings.

Make:	Ag Dispenser (Hybrid)
Type:	AG125, AG150, AG175, AG200
Serial number:	
Manufactured by:	Garnett Farms Engineering Ltd
Address:	Garnett Farms Engineering Ltd, Clay Bank Farm, London Road, Allostock, Cheshire, WA16 9LT

In addition, this machinery has been designed and manufactured in accordance with the following harmonised standards. For confirmation of the elements applied please refer to the manufactures technical file.

BS EN ISO 12100:2010	Safety of machinery. General principles of design – Risk assessment and risk reduction.
BS EN ISO 4254:2010	Agricultural machinery – Safety. Part 1: General requirements.
ISO 4413:2010	Hydraulic fluid power – General rules and safety requirements for systems and their components.
BS EN 12525:2000+A2:2010	Agricultural machinery Front loaders – Safety.
BS EN ISO 14120:2015	Safety of machinery – Guards – General requirements for the design and Construction of fixed and movable guards.
BS EN ISO 13857:2008	Safety of machinery – safety distances to prevent hazard zones being reached By upper and lower limbs.

Technical construction file Details held:	Garnett Farms Engineering Ltd, Hales Pasture Farm, London Road Allostock, Cheshire, WA16 9LT
Location of signature:	Garnett Farms Engineering Ltd, Hales Pasture Farm, London Road Allostock, Cheshire, WA16 9LT
Date of signature:	01/11/2017
Name:	Brett Fearn
Position:	Service Manager
Employed by:	Garnett Farms Engineering Ltd
Signature:	

OPERATION MANUAL

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SECTION 1 INTRODUCTION

1.1 FOREWORD

This manual will assist the operator to set, operate and maintain the AG Hybrid dispenser to produce a safe and efficient operation of the machine. This manual should be read carefully before putting the machine to work. This manual should be used in conjunction with the tractor, handler or loader manufactures manual.

1.2 IMPROVEMENTS AND CHANGES

Garnett Farms Engineering Ltd are continually improving their products to meet and exceed the customer's needs and therefore reserve the right to make improvements and changes when practical to do so, without incurring any obligation to make changes and additions to equipment which has been sold previously.

1.3 SERVICE PARTS

Use genuine and guaranteed Garnett Farms Engineering Ltd products on AG Products machinery to ensure maximum life and guaranteed performance. These are available direct from AG Products or through your local AG Products dealer.

When ordering service parts always quote the model of machine and serial number.

1.4 MACHINE IDENTIFICATION

The model and serial number of the dispenser are stamped on a plate located on the rear of the machine.

1.5 STANDARD WARRANTY POLICY

NEW MACHINE WARRANTY

All new machines supplied by Garnett Farms Engineering Ltd are warranted to the original purchaser, under normal use and service, to be free from defects in material and workmanship for a period of 12 months from the date of delivery to the original purchaser.

To qualify for the full benefit of this warranty, the dealer must ensure that the warranty registration details have been returned to Garnett Farms Engineering Ltd within 30 days from the date of delivery. Using the machine implies the knowledge and acceptance of these instructions and the limitations contained here in this manual. Garnett Farms Engineering Ltd reserves the right to suspend the operation of these warranty conditions unless and until the purchaser has paid in full for the goods or parts in question.

LIMITATION AND EXCLUSIONS

Garnett Farms Engineering Ltd and the authorised AG Products dealer shall not be liable to the original purchaser under any circumstance for injuries, death, property damage or damages of any kind whatsoever directly, consequential or contingent to any person or property. This warranty shall not extend or apply to temporary repairs or in respect of loss or any expense incurred for labour, additional machinery, rental or of any other reason or purpose.

Garnett Farms Engineering Ltd will not be liable under this warranty for any repairs carried out without its prior consent to the work being done. Any fault should be reported to your local AG Products dealer or direct to Garnett Farms Engineering Ltd as soon as the fault is discovered. Continued use of the machine could cause further failures for which Garnett Farms Engineering Ltd cannot be held liable and may also have safety implications.

Authorisation must be given by Garnett Farms Engineering Ltd Warranty Manager – no other employee, dealer or other person is authorised to give any warranties on behalf of AG Products. Subject to the conditions and exclusions noted in this limited warranty, Garnett Farms Engineering Ltd shall repair or replace free of charge any warranted parts which in the manufactures opinion show evidence of such defect provided that any such part is returned to AG Products if requested within 30 days of the repair being carried out.

Any parts on which warranty is given become the property of Garnett Farms Engineering Ltd and as previously stated must be returned to AG Products if requested. All warranty claims must be submitted to AG Products by an authorised AG Products dealer within 20 days of

the repair being carried out. The submission of a claim form is not a guarantee of payment. And any decision reached by Garnett Farms Engineering Ltd is final.

This limited warranty by Garnett Farms Engineering Ltd does not cover:-

1) Damage or depreciation caused by normal wear and tear. Any parts which have been subject to alteration, modification or fitment of non-genuine AG Products parts, wilful or accidental damage, damage caused by foreign objects (e.g. stones, metals and any other materials other than those suitable for the machines intended use).

2) Damage or depreciation caused by neglect or failure to carry out proper maintenance as recommended in the operators manual.

3) Damage or depreciation caused by abnormal or improper use in accordance with AG Products recommendations and/or as per the operating instructions.

4) Environmental damage

TRANSFER OF WARRANTY

Garnett Farms Engineering Ltd may at its sole discretion allow this warranty to be transferred to a new owner for the balance of the warranty period, subject to all of the warranty conditions being met at the original point of sale and up to the date of resale. AG Products will give prior written consent and the new owner must complete an AG Products warranty registration form and return it to Garnett Farms Engineering Ltd within 30 days of purchase date for the remainder of the warranty to be valid.

WARRANTY ON PARTS

Garnett Farm Engineering Ltd warrants that any part or components supplied by AG Products in accordance with this limited warranty are free from defects in material or workmanship from the date of sale to the original purchaser for 6 months. Garnett Farm Engineering Ltd will at its option, either repair or replace the defective part free of charge.

Parts replaced or repaired by Garnett Farm Engineering Ltd under warranty conditions will have the remainder of the machine warranty period applied.

Garnett Farms Engineering Ltd. Cannot be held responsible for any failures or safety implications arising from the use of non-genuine parts. Use of non-genuine parts may seriously affect the machines performance and safety.

1.6 EXTENDED WARRANTY / SERVICE PLAN (UK customers only)

Your AG Dispenser comes with the option of purchasing an extended warranty of a further 24 months beyond the standard 12 months warranty period. To apply for or discuss this extended warranty/service package please complete the attached request form at the back of this book and return to Garnett Farms Engineering Ltd.

This extended warranty must be applied for within the first six months after purchasing the machine.

1.7 QUALITY OF TRANSLATIONS

Where instructions for use are translated from the original language into others, expert translators or specialists shall be responsible for the translation including checking and proofreading, and:

- Have basic competences in communication, particularly technical communication;
- Are familiar with the subject area;
- Are fluent in the original and target languages, preferably native speakers in the target language.

Colloquial expressions and untypical regional variations of names and product features should be avoided.

The translated instructions for use should be edited by qualified persons specializing in writing and translating for the target groups.

SECTION 2 SAFETY PROCEDURES

2.1 ACCIDENT PREVENTION

The following safety instructions are applicable for all chapters of this manual.

Accident prevention programs can only prevent accidents with the co-operation of the persons responsible for the operation of the equipment.

For safety of yourself and others, operate equipment with care and do not take unnecessary risks, which could cause an accident.

Please read all safety instructions contained in this operators manual with the utmost care and also observe all safety signs attached to the AG Dispenser. Please ensure these instructions are made available and are understood by all other uses of the AG Dispenser. You are advised to refrain from any working methods which may be hazardous.

All relevant accident prevention regulations governing the operation of agricultural machinery, as well as other generally acknowledged health and safety regulations and road traffic regulations must be strictly observed.

The tractor, handler or loader manufactures operators manual, safety precautions should also be adhered to when using the AG Dispenser.

CAUTION

This symbol will appear throughout this manual whenever your safety, the safety of others or the machinery is involved.

2.2 SAFETY SIGNS

The following signs appear on the machine and are for your safety and the safety of other people. Ensure that you identify each symbol and understand its warning.

These safety signs must be kept in a legible condition and must be replaced if damaged or missing.

Standard safety signs used on all models

	Switch off engine and remove key before undertaking repair.
	Keep a safe distance from the machine to prevent injury to body and eyes.
	Don't reach into the hopper / gain access into the hopper due to the hazard of rotating parts.
	Hazard of high pressure fluid hazard, injection into the body.
	Read operators manual before operating the machine.
	Use of a face mask is advised in dusty conditions.

2.3 ACCIDENT PREVENTION BEFORE STARTING THE MACHINE

If moving the AG dispenser by overhead lifting use the designated lifting points, see section 4 (transportation). Ensure that the slings / chains are rated accordingly, and that the angles of the slings / chains are set in accordance to lifting regulations. Ensure the lifting device has enough capacity to lift the AG dispenser.

Ensure bystanders are at a safe distance when moving the AG dispenser by overhead slinging.

The AG dispenser should only be used if all safety devices, e.g. detachable guards, are fitted securely and in proper working order.

Check there are no foreign objects interfering with the AG dispenser, tractor, handler or loader.

Ensure that no person is working on, inside or in the local area of the AG dispenser, tractor, loader or handler at any time during all stages of use.

Always perform a walk round inspection before starting the machine.

2.4 ACCIDENT PREVENTION WHEN ATTACHING AND DETATCHING TO THE TRACTOR, HANDLER OR LOADER

Ensure the AG dispenser is parked on even level ground for attaching and detaching.

The operation of attaching and detaching the AG dispenser involves a risk of injury. Follow the procedures described further on through this manual for AG dispenser attachment and detachment. See section 5.

Check that the combined weight of the AG dispenser and the heaviest load of bedding material do not exceed the tractor, loader or handlers manufactures recommended safe working load.

Connect the AG dispenser to the tractor, loader or handler using a manufacturer approved bracket in the manner recommended in the tractor, loader or handler operators manual.

Check that all observers are clear of the AG dispenser, tractor handler or loader. Slowly drive the tractor, handler or loader towards the AG dispenser. Always ensure that there are no persons in the vicinity or between the machine, tractor, handler or loader.

Connect the AG dispenser to the tractor linkage using only the method recommended in the tractor operators manual. Ensure handler and loader locking pins / devices or tractor linkage arm retainers are secured once connected.

Do not detach the AG dispenser loaded as stability will be reduced; always empty the bin before detaching.

2.5 HYDRAULIC AWARENESS

Due to the possibility of oil contamination on your hands it is recommended to use the correct PPE (Personal Protective Equipment), wear suitable gloves when handling hydraulic hose connectors.

Do not attempt to connect the hydraulic couplings to the tractor, handler or loader hydraulic system until you have made sure that the system pressure is at zero on both the tractor, handler, loader and AG dispenser.

Hydraulic systems can generate extremely high pressures. All piping, hoses and connections must therefore be checked regularly for leakage and visible external damage. Use proper, thorough and safe methods to search for leakage. If any leaks or damage are found this should be rectified before commencing to use the AG dispenser.

Spurting hydraulic oil can cause injuries and fires, seek medical advice immediately in the event of injury.

Hydraulic systems can generate heat within its components, be aware if touching / servicing components immediately after use.

2.6 ACCIDENT PREVENTION WHEN OPERATING THE AG DISPENSER

The AG dispenser must not be put into operation until the end user has read and understood the operators manual. If in any doubt contact your dealer or Garnett Farms Engineering Ltd employees.

One person should use the AG dispenser only. When the operator identifies someone approaching or is to close for their safety, the operator should stop operating until the person is clear before starting again.

Bystanders need to keep a safe distance from the AG dispenser, tractor, handler or loader while it is being operated. Warn bystanders by sounding the horn and give them time to move before starting.

In the event of a malfunction, immediately stop the AG dispenser and secure in a stationary position. All malfunctions must be rectified immediately. Ensure the tractor, handler or loader is turned off, the handbrake applied and the key removed from the ignition.

Do not work around the AG dispenser, tractor, handler or loader in loose clothing that might get caught up in moving parts. Do not go under the AG dispenser unless it is securely blocked and secure.

Always replace all guards after making any adjustments to the AG dispenser, replace any missing or damaged guards immediately.

Never approach the AG dispenser whilst the machine is being operated.

Keep hands and feet away from moving parts i.e. conveyor belt / rollers / spinners. Do not reach in to the bin due to entanglement of the auger and agitator.

Inspect bedding material before loading to ensure it does not contain any foreign objects.

If manually loading the bin, follow manual handling recommendations.

Certain types of bedding product could demand the use of PPE due to its fine particles or the material is a skin irritant. In this case wear gloves, goggles, face mask and overalls. Keeping the tractor, handler or loader windows and doors closed whilst discharging will also help reduce exposure.

Ensure your driving line is free from obstruction and bystanders.

If using a tipping frame and loading heavy material, do not overload the bin making the tractor, handler or loader unstable. Certain combinations of AG dispenser and mover size may mean the bin cannot be completely filled.

When transporting an AG dispenser on a handler or loader carry the dispenser at a low height from the ground to increase the load stability.

2.7 ACCIDENT PREVENTION WHEN PARKING THE MACHINE

Park the AG dispenser, tractor, handler or loader on level ground.

Apply the tractor, handler or loader handbrake.

Lower the AG dispenser to the ground.

Stop the tractor, handler or loaders engine and remove the ignition key.

2.8 ACCIDENT PREVENTION WHEN SERVICING AND ADJUSTING THE MACHINE

The AG dispenser must only be serviced / maintained by a competent person who understands the workings of the machine and the risks involved in carrying out this type of work.
Ensure the AG dispenser is on the ground or if in an elevated position, that it is securely supported.

Stop the engine, apply the handbrake and remove the key of any tractor, handler or loader before performing any maintenance or service work.

All defects which might affect the safe operation of the AG dispenser must be immediately rectified.

OEM replacement parts and accessories from AG Products have been specially designed and tested for use with the AG dispenser. The use of none genuine OEM parts which have not

been tested by AG products may under certain circumstances have a negative influence on the machine and may therefore adversely affect its safe and reliable operation and the safety of the operator or bystanders.

AG Products cannot therefore be held liable for damage or injury caused by the use of none OEM replacement parts or accessories.

If working inside the bin i.e. moving adjuster plates, ensure the bin is tilted forward into its scooping position to avoid falling in if over stretching with the bin in an upright position.

If running the machine during maintenance or adjustment, keep a safe distance away from moving parts. Always stop the machine before making any further adjustments and replace all guards once your work is complete.

2.9 ACCIDENT PREVENTION WHEN TAKING ON PUBLIC ROADS

Do not use a tractor, handler or loader to transport the AG dispenser on a public highway.

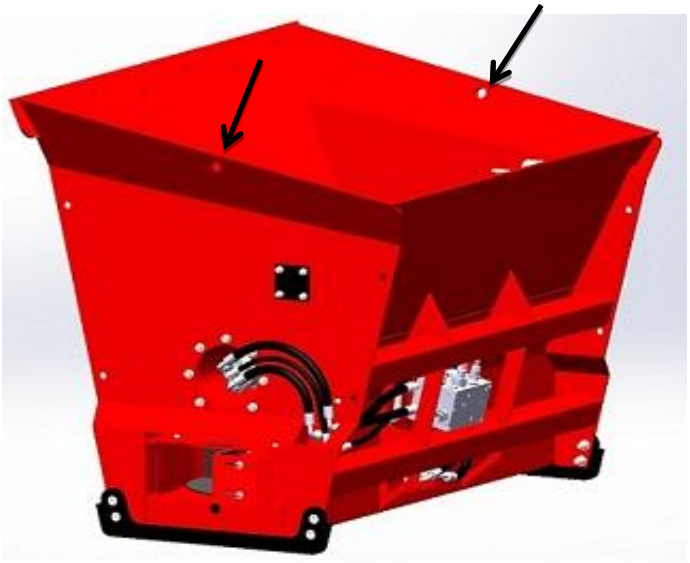
Fully secure all guards and covers and empty the bin before moving on a public highway to avoid any injury or damage to other uses of the public place.

2.10 TRANSPORTATION

To prevent damage to the AG dispenser the machine should only be moved by one of the following methods:

1/ using a tractor, handler or loader with the correct lifting brackets.

2/ using overhead lifting by slinging the AG dispenser with the two designated lifting points



2.11 ACCIDENT PREVENTION WHEN CLEANING AND STORING MACHINE

Do not run the machine while cleaning

If cleaning the machine with a steam cleaner or pressure washer, follow recommended precautions given by the washing equipment manufacturer.

Wear appropriate PPE (Personal Protective Equipment).

When storing the machine ensure the bin, conveyor or spinners are empty of product.

Store the AG dispenser in the scooping position on firm level ground.

2.12 PROPER USE

Always make sure the AG dispenser is in good working condition and that it is used properly for its intended purpose and entirely in accordance with the instructions given in this manual. Any defects which might affect the safe operation of the AG dispenser must be rectified immediately.

The AG dispenser is intended for use for transporting and distributing bedding material into cattle cubicles. Any uses other than that intended such as transportation of none bedding products, will automatically exempt Garnett Farms Engineering Ltd or the supplier from its liability in respect of ensuing damage. Such cases of improper use will therefore be entirely at the users own risk.

The AG dispenser is manufactured in accordance with recognised safety requirements. Nevertheless the use of the AG dispenser does not preclude the risk of injury to the user or third parties and or the risk of damage to the AG dispenser itself or to other materials or items of equipment.

Improper use also comprises failure to observe the instructions as given in this operators manual and the recommended maintenance and service requirements.

2.13 NO LIABILITY FOR CONSEQUENTIAL DAMAGE

It is the responsibility of the owner / operators to ensure that foreign objects, e.g. stones, metal objects etc. are not allowed to enter the AG dispenser. Failure to observe this may result in damage to the machine and / or injury to the operator or others.

Any claims for damages not directly incurred by the AG dispenser cannot be accepted. By the same token, Garnett Farms Engineering Ltd cannot be held liable for any consequential damage resulting from incorrect use of the AG dispenser.

SECTION 3 SPECIFICATIONS AND DESCRIPTION

The machine is available in four sizes AG125, AG150, AG175 and AG200 models in order of smallest to largest.

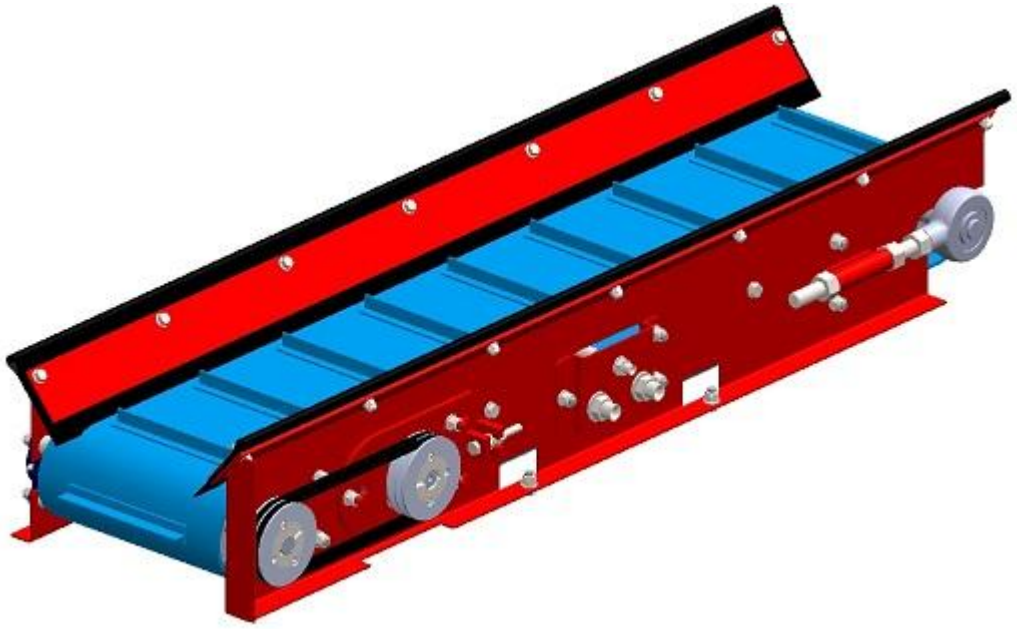
3.1 DISCRIPTION

The AG dispenser consists of a bin which holds the bedding product, an auger which moves the product in the bin and either a conveyor or spinners to dispense the product.

The machine can be optionally mounted to a tractor or loader by one the following three methods.

- AG 3 Point Tilting Mechanism which has an integrated “A” frame that speeds up the changing of machines from one tractor to another.
- AG 2 Point Tilting Mechanism, like its 3 point counterpart the AG 2 Point Tilting Mechanism offers an increased lift capacity, but does offer some different benefits. This option sits in closer to the tractor, which allows for increased weight without disrupting the tractors balance.
- Another option is to mount the machine to a telescopic handler or loader, via approved handler or loader brackets; these are bolted to the rear box sections on the AG dispenser.

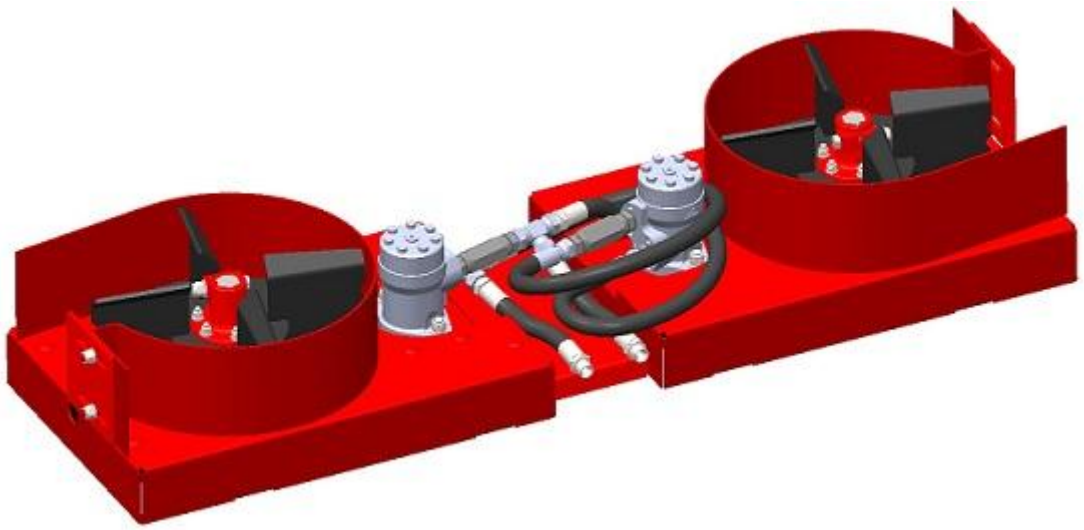
Conveyor option



Positioned under the bin as a conveyor belt, which is used to dispense the bedding product from either the left or right hand side of the machine. The conveyor is driven via a v belt from a hydraulic motor. In the bottom of the bin is an auger which moves the bedding product in the opposite direction of the conveyor belts rotation to give a flow of product over the adjuster plates and through the adjusting slide on to the conveyor belt. The auger is driven by a geared hydraulic motor. The hydraulic feed is taken from the tractor, handler or loaders aux hydraulic circuit and enters the machine via a hydraulic pressure and flow control block.

The adjusting slide consists of a flat plate which runs the width and length of the bin and sits above the conveyor. The slide has a hole and an adjuster plate at each end and the amount of product falling onto the conveyor is regulated by increasing or decreasing the hole size.

Spinner option



Positioned under the bin and at both ends are spinner modules (pic) which are used to dispense the bedding product from either the left or right hand side of the machine. Each spinner is driven via a double v belt from its own hydraulic motor. In the bottom of the bin is an auger which moves the bedding product in the direction of the dispensing spinner to give a flow of product through the adjusting slide on to the spinner. The product is then dispensed from the spinner passing the small adjusting plate on the end of the spinner module. The auger is driven by a geared hydraulic motor. The hydraulic feed is taken from the tractor, handler or loaders aux hydraulic circuit and enters the machine via a hydraulic pressure and flow control block.

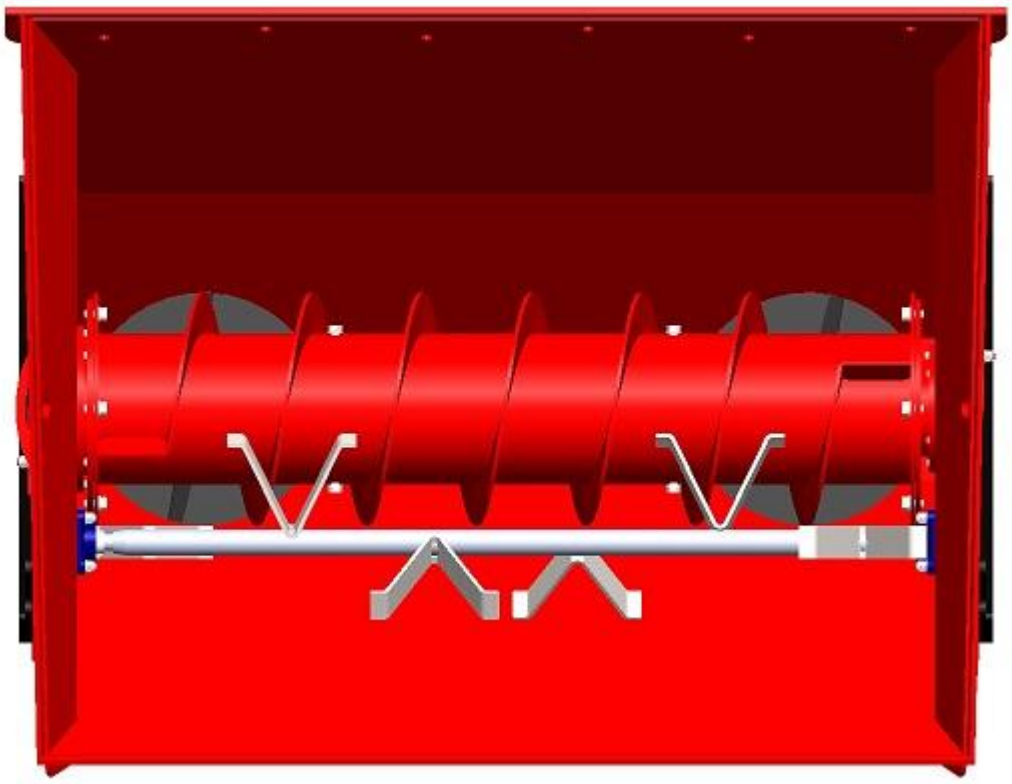
The adjusting slide consists of a flat plate which runs the width and length of the bin and sits above the conveyor. The slide has a hole and an adjuster plate at each end and the amount of product falling onto the conveyor is regulated by increasing or decreasing the hole size.

The small adjusting plates on the end of the spinners consist of a two flat vertical plates which have two horizontal adjusting slides. These are adjusted to regulate the spread pattern of the product and are locked in position by two retaining bolts.

Top agitator option

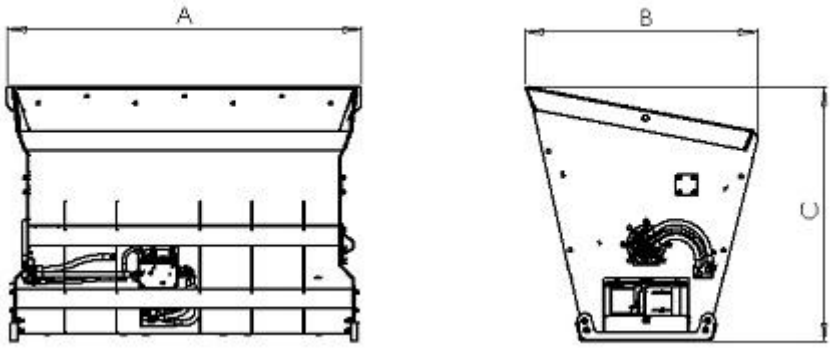
The top agitator consists of a round bar with attached flighting which can be mounted along the internal back edge of the dispenser bin.

The agitator is driven via a chain and sprocket drive from the main auger which when fitted is covered by an additional guard.



3.2 TECHNICAL SPECIFICATION

Sizes of basic machines are as follows (all dimensions are approximate).



Model	Capacity (cu mtr's)	Un-laden (kg) Conveyor unit.	Un-laden (kg) Spinner unit.	Width, A (m)	Depth, B (m)	Height, C (m)
AG 125	0.69	454	493	1460	1122	1226
AG 150	0.9	548	584	1710	1122	1226
AG 175	1.5	718	746	1960	1127	1226
AG 200	2.1	789	811	2210	1127	1226

3.3 MOUNTING OPTIONS

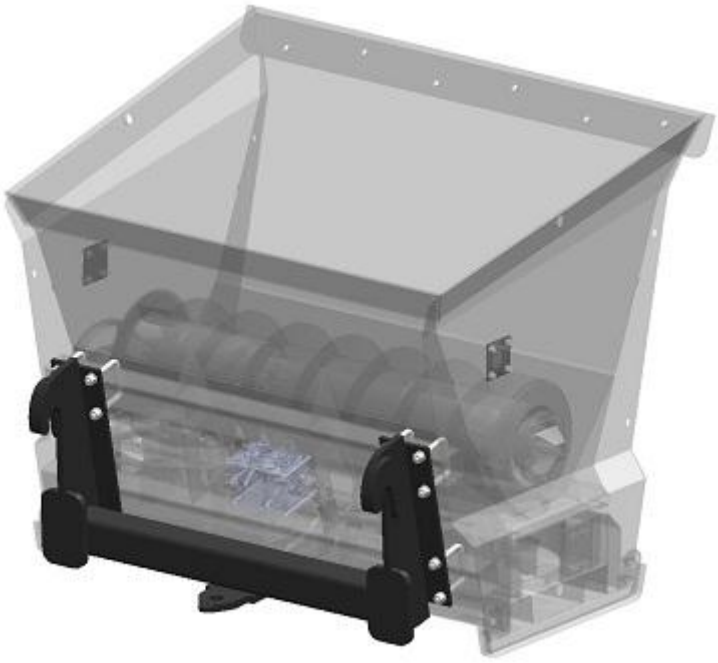
AG 3 point tilting mechanism

- The AG 3 Point Tilting Mechanism has an integrated “A” frame that speeds up the changing of machines from one tractor to another.
- The frame also uses an added hydraulic ram for the self-loading mechanism.
- A spool block can be added for those tractors that only have 1 oil service available

AG 2 point tilting mechanism

- Like its 3 point counterpart the AG 2 Point Tilting Mechanism offers an increased lift capacity, but does offer some different benefits.
- Sits in closer to the tractor, which allows for increased weight without disrupting the tractors balance.
- Heavier Duty build.
- Greater lift capacity.

A range of brackets are available which can be bolted on to your dispenser



SECTION 4 FITMENT OF BRACKETS AND TIPPING FRAME

4.1 FITMENT OF 2 and 3 POINT TILTING MECHANISM

The AG 3 point tilting mechanism will be delivered already assembled and will be set in the upright position for the AG dispenser. The AG 3 point tilting mechanism simply bolts on to the two box sections on the rear of the bin with the use of 8 U bolts.

If assembling brackets or lifting frames to the AG dispenser using lifting equipment, be careful not to trap fingers due to confined spaces.

To fit the 3 point tilting mechanism to the AG dispenser please follow the simple steps as described below.

1. Position the AG dispenser on its scooping side on level ground.
2. Using suitable lifting equipment sling the AG 3 point tilt in such a way that the two mating surfaces are at the same angle.
3. Position the AG 3 point tilting mechanism so that the bolt holes in the tilting frame fall either side of the box sections on the rear of the machine.
4. Thread the 8 U bolts around the box sections and up through the tilting frame before securing in place with a flat washer and nylock nuts.

4.2 FIMENT OF HANDLER OR LOADER BRACKETS

Before using the AG dispenser on a handler or loader, manufacturer approved brackets will need fitting to the two box sections on the rear of the machine by the use of 8 x M16 U bolts.

The height of the handler and loader brackets will be governed by the bolt holes in the brackets however the brackets will require setting centrally and at the correct distance apart to suit the handler or loader headstock.

SECTION 5 ATTACHMENT TO TRACTOR, HANDLER OR LOADER

5.1 ATTACHING THE AG 3 POINT TILTING MECHANISM WITH TOP LINK

Ensure the tractor is of adequate size to lift the AG dispenser safely and still maintain positive steering when it is full of the product you wish to dispense.

The tractor will require one single acting spool. An additional Spool block can be added for those tractors that only have 1 oil service available

Refer to the tractors operators manual for more details on attachment and removal of equipment.

Follow the procedure below,

1. Ensure the AG dispenser is sitting on firm / level ground.
2. Ensure there are no bystanders between the tractor and the AG dispenser.
3. Slowly reverse the tractor centrally up to the AG dispenser ensuring the lift arms are aligned with the locating plates on the 3 point tilt. Adjust the arms if required to allow the pins to locate through the balls in the lifting arms. Alternatively the tractor might be fitted with quick release lift arms allowing the balls to be initially fitted to the AG dispenser and then simply hooked in and locked into place.
4. Apply the tractors parking brake and stop the engine.
5. Connect the lifting arms using the two pins and retaining pins.
6. Adjust the tractors top link length as required to enable it to be attached to the machine. Secure with the top link pin and retaining pin.
7. Attach the hydraulic hose for the tilting mechanism and the two AG dispenser hoses to the tractor spools.
8. Start the tractor and raise the AG dispenser to the required working height.

9. Stop the tractor and adjust the top link as required to set the conveyor parallel with the ground.
10. Adjust the tractor lift arm check chains to minimise sideways movement of the AG dispenser.
11. Ensure all connecting hoses are free to move and are clear of potential snags.
12. Ensure no bystanders are present and tip the AG dispenser to its scooping position and then back to the fully raised position to ensure the hydraulic circuit is primed with oil. This first initial movement may seem a little erratic this will clear once the circuit is primed with oil.

5.2 ATTACHING THE AG 3 POINT TILTING MECHANISM 'A' FRAME

Follow the procedure below,

1. Ensure the AG dispenser is in the upright position. The AG dispenser may need to be raised off the floor on adequate blocks as the tractor 'A' frame may not go low enough to enter the 'A' frame on the 3 point tilt.
2. Ensure there are no bystanders between the tractor and the AG dispenser.
3. Slowly reverse the tractor centrally to the machine ensuring the 'A' frame alignment to the tipping frame is kept central and at the correct height. Once the tractor 'A' frame has entered the 3 point tilt 'A' frame raise the lift arms to allow the 'A' frame locking mechanism to activate fully.
4. Apply the handbrake and stop the engine.
5. Attach the two hydraulic hoses for the tilting mechanism and the two AG dispenser hoses to the tractor spools.
6. Start the tractor and raise the AG dispenser to the desired working height.
7. If necessary adjust the tractors top link to set the conveyor parallel to the ground.
8. Adjust the tractor lift arm check chains to minimise sideways movement of the AG dispenser.
9. Ensure all connecting hoses are free to move and are clear of potential snags.
10. Ensure no bystanders are present and tip the AG dispenser to its scooping position and then back to the fully raised position to ensure the hydraulic circuit is primed with oil. This first initial movement may seem a little erratic this will clear once the circuit is primed with oil.

5.3 ATTACHING THE AG 2 POINT TILTING MECHANISM

Follow the procedure below,

1. Ensure the AG dispenser is sitting on firm / level ground in the scooping position.
2. Ensure there are no bystanders between the tractor and the AG dispenser.
3. Slowly reverse the tractor centrally up to the AG dispenser ensuring the lift arms are aligned with the locating plates on the 2 point tilt. Adjust the arms if required to allow the pins to locate through the balls in the lifting arms. Alternatively the tractor might be fitted with quick release lift arms allowing the balls to be initially fitted to the AG dispenser and then simply hooked in and locked into place.
4. Apply the handbrake and stop the engine.
5. Connect the lifting arms using the two pins and retaining pins.
6. Attach the hydraulic hose for the tilting mechanism and the two AG dispenser hoses to the tractor spools.
7. Ensure all connecting hoses are free to move and are clear of potential snags.
8. Start the tractor and raise the AG dispenser to the required working height.
9. Adjust the tractor lift arm check chains to minimise sideways movement of the AG dispenser.

5.4 ATTACHING TO A HANDLER OR LOADER

The AG dispenser must be initially fitted with the correct handler or loader brackets. Ensure the handler or loader meets or exceeds the minimum SWL requirements to lift the AG dispenser full of product.

Refer to the handler / loader operators manual for more details on attachment and removal of equipment.

Follow the procedures below,

1. Ensure the AG dispenser is sitting on firm / level ground.
2. Ensure there are no bystanders between the handler / loader and the AG dispenser.
3. Slowly drive the handler / loader towards the AG dispenser with the headstock positioned just below the height of the lifting brackets on the AG dispenser. Lift the headstock and crowd back until the headstock and brackets on the AG dispenser fully engage
4. Engage the locking mechanism to secure the AG dispenser to the handler or loader. Alternatively apply the handbrake stop the engine and manually lock the dispenser onto the machine.
5. Apply the handbrake and stop the engine.
6. Connect the two hydraulic hoses to the auxiliary couplings on the handler / loader.

SECTION 6 PUTTING THE MACHINE TO WORK

6.1 INITIAL MACHINE RUN UP

Once the AG dispenser is securely attached to tractor, handler or loader it can then be run up and checked for correct operation before any bedding takes place.

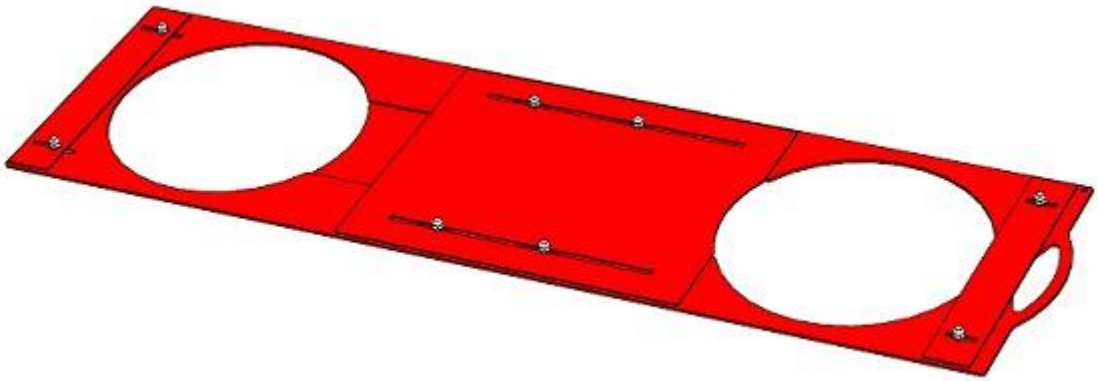
Follow the procedure below,

1. Check there are no foreign objects in the bin.
2. Ensure there are no bystanders around the AG dispenser, tractor, handler or loader.
3. Raise the AG dispenser to the required working height and stop the engine. Visually check the conveyor belt is free from snags, running straight and not sagging due to incorrect tensioning.

4. Ensure there are no bystanders around the AG dispenser, tractor, handler or loader.
5. Start the tractor, handler or loader and set the revs at idle. Slowly engage the spool driving the AG dispenser and note the direction of rotation of the conveyor or spinners and run for approximately 30 seconds.
6. Return engine revs back to idle and disengage the spool and allow the machine to stop.
7. Engage the spool in the opposite direction and run for approximately 30 seconds.
8. Return engine revs back to idle and disengage the spool and stop the engine.
9. Inspect the machine and check for oil leaks and that the conveyor belt is tracking correctly.

6.2 SETTING THE ADJUSTING SLIDE TO SUIT YOU'RE BEDDING PRODUCT AND NEEDS

Before using the machine with bedding products the adjusting slide must be adjusted to provide a suitable gap in order to obtain the desired bedding flow rate. The adjusting slide sits inside the bid and is removed for adjustment by sliding the plate out from the end of the bin using the handle provided.



The size of the gap will determine the rate of flow at which the bedding product flows onto the conveyor belt and spinners and will vary in size between all bedding products. The ideal gap will be found through fine tuning

Follow the procedure below,

Ensure the AG dispenser is parked on an even surface and that the handbrake of the tractor, handler or loader is applied and the engine stopped and the key removed.

 Wear appropriate PPE (Personal Protective Equipment) when carrying out all maintenance or repairs to your machine.

1. Empty the bin of any bedding product.
2. Lower the AG dispenser to the ground in an upright position.
3. Apply the handbrake stop the engine and remove the key.
4. Slide out the adjusting slide from the side of the machine using the handle provided on the end of the slide.
5. Using a 13mm spanner slacken the adjusting plate locking bolts enough to allow the plates to move along the adjusting slots.
6. Adjust both ends of the adjusting slide equally and lock into position.
7. To increase the amount of bedding product flowing through on to the conveyor or spinners enlarge the hole size by moving both plates towards the centre of the adjusting slide.
8. To reduce the amount of bedding product flowing through on to the conveyor or spinners reduce the hole size by moving the plates towards either end of the adjusting slide.
9. The flow can also be fine-tuned by adjusting the smaller plates at either end of the adjusting slide.
10. Slide the adjusting slide back into the end of the bin until fully in.

It may be necessary to carry out this procedure several times before the ideal quantity of bedding product is dispensed.

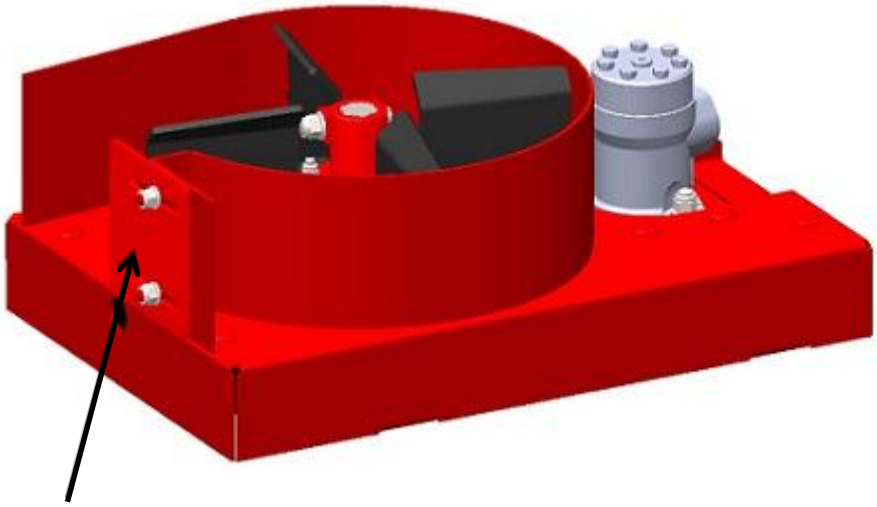
6.3 SPINNER SPREAD CONTROL PLATES

The spinner modules have individual spread control plates which allow the operator to control the spread pattern of the bedding product.

Follow the procedure below,

1. Lower the AG dispenser to the ground in the upright positon.
2. Apply the handbrake stop the engine and remove the key.
3. Slacken the two M10 lock nuts with a 17mm spanner which holds the control plates in place on either end of the bin.

4. Slide the control plates to the desired position and then lock into place with the M10 lock nuts.



Spread control plate

6.6 CONVEYOR SPEED ADJUSTMENT

If the AG dispenser is to be used with a tractor, handler or loader with limited oil flow the conveyor speed can be adjusted with the use of a selection of pulley ratios.

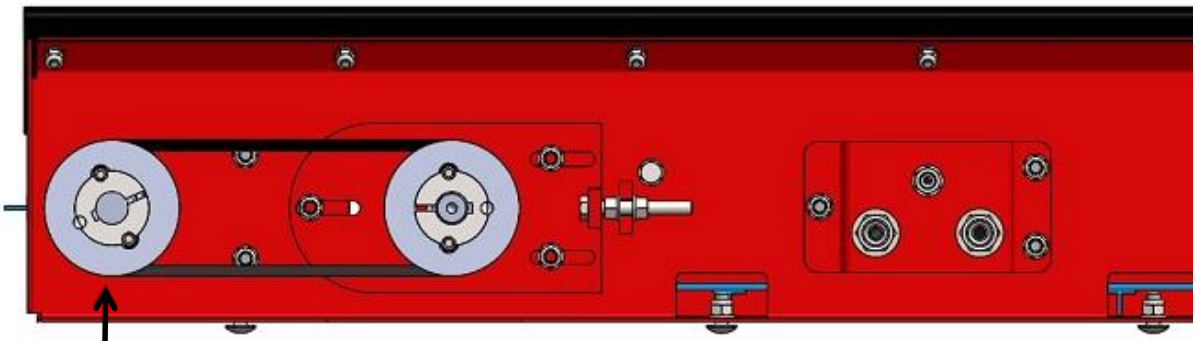
Three speed settings are available, alternative V belts will be required for each setting.

100 – 100 ratio standard.

140 – 80 ratio suitable for low to medium oil flows.

140 – 60 ratio suitable for low oil flows

NB. Higher speed settings are designed for low oil flow settings, using them on higher oil flow machines will invalidate warranty.



When changing pulley ratios always fit the smaller diameter pulley to the head roller.

6.7 LOADING THE MACHINE

 Refer to section 2 Safety Procedures.

 Before loading the AG dispenser ensure it is correctly and securely attached to the tractor, handler or loader.

 Do not use the machine if frozen bedding product is present in the bin or dispensing system.

Before loading the machine activate the hydraulic supply, which controls the auger and conveyor or spinner modules to ensure they are turning correctly and freely. Operate the spool in both directions and familiarise yourself with the direction of travel in relation to the spool lever travel.

 Check the combined weight of the AG dispenser and full load of bedding do not exceed the tractor, handler or loaders recommended safe loading of axle, wheels and tyres.

Machines fitted with a 2 or 3 point tipping frame or directly to a handler or loader can be directly filled from a bulk pile on the ground.

Follow the procedure below,

1. Check there are no foreign objects in the bin, conveyor belt or spinners.
2. Check where possible that there are no foreign objects in the bulk bedding.
3. Ensure there are no bystanders around the AG dispenser, tractor, handler or loader.
4. Start the tractor, handler or loader engine.
5. If the AG dispenser is in the scooped position raise the dispenser away from the ground and crowd round to the vertical position.
6. Drive to the pile of bulk bedding and stop.
7. Crowd the AG dispenser forward into the scooping position with only the blade touching the ground.
8. Drive / reverse the tractor, handler or loader into the bulk pile until the bin is full.
9. Crowd the bin back into the vertical position until the conveyor is parallel to the ground.
10. Position the AG dispenser into a safe driving height and drive / reverse away from the pile.

6.8 DISPENSING THE PRODUCT

 Check there are no bystanders or animals close or in the driving line of the machine before starting to discharge the bedding material.

Follow the procedure below,

1. When the tractor, handler or loader and the AG dispenser are positioned ready to start bedding the first cubicle, check that the conveyor is parallel to the ground and that the dispenser is at the correct height to get the desired spread pattern.
2. With the engine revs at idle activate the tractor, handler or loader hydraulic spool to start the dispensing of the product.
3. As soon as the dispensing has started move along the cubicle beds at the desired speed allowing bedding to be dispensed evenly.

If the rate of dispensing or the spread pattern is not what is required then fine tuning will be needed.

6.9 FINE ADJUSTMENTS

Discharge rate,

The discharge rate is governed by,

1. The adjustment of the slide (section 6.2).
2. The oil flow from the tractor, handler or loader. This can be adjusted by altering the engine revs or if available varying the flow via a flow controller fitted to the tractor, handler or loader.

Spread pattern,

The distance the bedding product can be thrown is dependent on;

1. The speed at which the conveyor runs (section 6.6).
2. The height at which the AG dispenser is off the ground.

The adjustment of all or some of the above factors will result in the AG dispenser performing to its best ability with all bedding product types.

6.10 BLOCKAGE REMOVAL

 Always make sure the handbrake is applied and the engine stopped with the key removed before carrying out and maintenance or service work.

 Wear appropriate PPE (Personal Protective Equipment) when carrying out all maintenance or service work.

If during the dispensing of the bedding product the auger, conveyor or spinners stall follow the procedure below,

1 Bring the tractor, handler or loader movement to a stop and bring the engine revs to idle.

2 Disengage the spool to stop the flow of oil to the AG dispenser.

3 Briefly try to discharge from the opposite side of the bin to see if the blockage is in one direction only. If the AG dispenser is ok in the opposite direction stop the discharge and try again in the direction of the blockage.

4 If the blockage has still not cleared then put the hydraulic spool to neutral and empty the contents of the bin back onto the bulk pile.

5 Lower the AG dispenser to the ground in the scooping position.

6 Apply the handbrake of the tractor, handler or loader stop the engine and remove the key.

7 Look into the bin and investigate if there are any foreign objects that can be seen and if so easily removed.

8 The use of a pry bar is recommended to remove any blockage to prevent potential for trapping and cuts and bruises due to manual intervention.

9 Once any foreign objects have been removed start the tractor, handler or loader and try the AG dispenser again.

10 If the AG dispenser is still blocked stop the machine and phone your local dealer or Garnett Farms Engineering Ltd for further advice.

SECTION 7 **MAINTENANCE**

Refer to section 2- 2.8 for accident prevention.

Wear appropriate PPE (Personal Protective Equipment) when carrying out all maintenance or service work.

The AG Dispenser is designed for the optimum performance with minimum requirement for maintenance.

7.1 GREASING

The AG dispenser is built using sealed for life bearings however the bearing housings will require greasing every 50 hours.

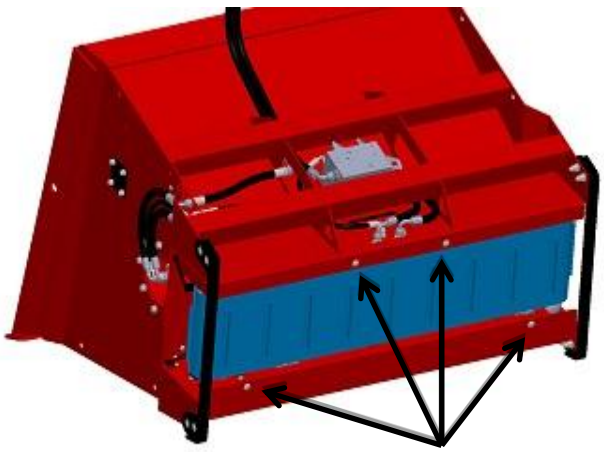
7.2 CONVEYOR DRIVE V-BELT, CHECK / ADJUSTMENT

Refer to section 2- 2.8 for accident prevention.

Wear appropriate PPE (Personal Protective Equipment) when carrying out all maintenance or service work.

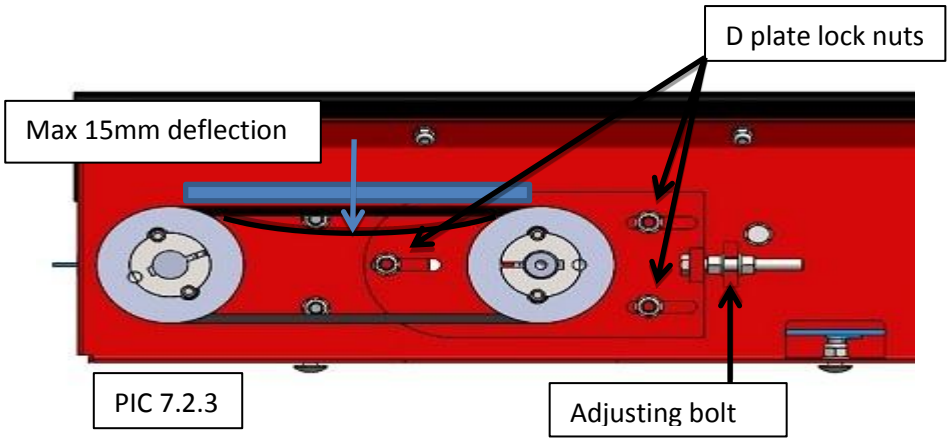
Please follow the procedure below,

1. Locate a firm level location to work on the AG dispenser.
2. Lower the AG dispenser to the ground in the scooped position.
3. Apply the tractor, loader or handler hand brake turn off the engine and remove the key.
4. Remove the four conveyor bed retaining bolts (PIC 7.2.1).
5. Disconnect the three hydraulic hoses from the conveyor bed (picture 7.2.2).
6. Slide out the left hand side of the conveyor bed (looking from the valve block side) far enough to access the V belts and pulleys.
7. Check the adjustment of the V-belt with the use of a steel rule and tape measure. The deflection should be set at no more than 15mm (picture 7.2.3).



PIC 7.2.1

PIC 7.2.2



PIC 7.2.3

8. If the tension is incorrect slacken the three M10 lock nuts which lock the adjusting plate (also known as the D plate) in position (picture 7.2.3). Loosen the lock nut on the adjuster bolt and then adjust as required before locking off again (picture 7.2.3) Tighten the M10 lock nuts and then re-check the belt deflection again.

9. When the belt tension is correct slide the conveyor bed back into the base of the bin. Refit the four conveyor bed retaining bolts and tighten until nipped.

10. With a suitable pry bar make sure the conveyor bed is positioned centrally before locking the conveyor bed into position.

11. Reconnect and tighten the three hydraulic hoses to the conveyor bed.

7.3 SPINNER V-BELT, CHECK / ADJUSTMENT

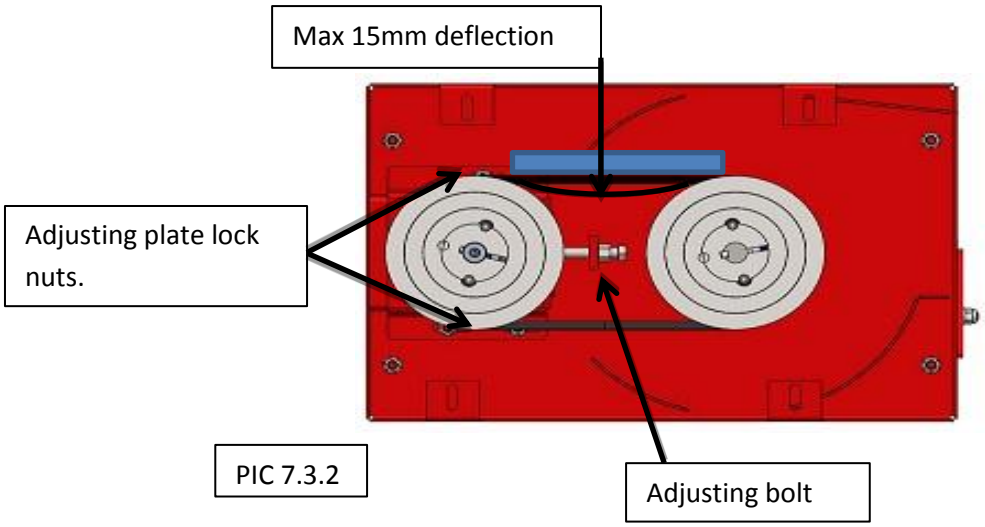
Refer to section 2- 2.8 for accident prevention.

Wear appropriate PPE (Personal Protective Equipment) when carrying out all maintenance or service work.

Please follow the procedure below,

1. Locate a firm level location to work on the AG dispenser.
2. Lower the AG dispenser to the ground in the scooped position.
3. Apply the tractor, loader or handler hand brake turn off the engine and remove the key.
4. Remove the spinner module guard by removing the four M10 nuts (picture 7.3.1).
5. Check the adjustment of the V-belt with the use of a steel rule and tape measure. The deflection should be set at no more than 15mm (picture 7.3.2).
6. If the belt requires adjustment slacken the three M10 adjusting plate lock nuts and slacken the M12 lock nut on the adjusting bolt. Adjust the belt to correct tension and lock the adjuster bolt and adjuster plate in position (picture 7.3.2).
7. Following all adjustments re-fit the spinner module guard and secure into place with the M10 lock nuts you have previously removed.

PIC 7.3.1



7.4 CONVEYOR BELT, CHECK / ADJUSTMENT

Refer to section 2- 2.8 for accident prevention.

Wear appropriate PPE (Personal Protective Equipment) when carrying out all maintenance or service work.

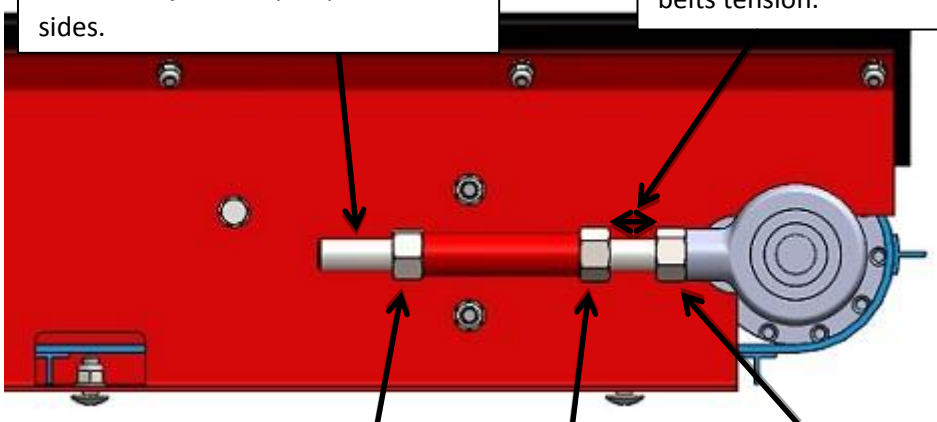
Please follow the procedure below,

1. Locate a firm level location to work on the AG dispenser.
2. Lower the AG dispenser to the ground in the scooped position.
3. Apply the tractor, loader or handler hand brake turn off the engine and remove the key.
4. To check the correct tension of the conveyor belt find a cleat at the centre of the belt and pull it towards you. With a little force the belt should move as far as the outer edge of the conveyor bed but no further.

Follow the procedure below to adjust the conveyor belt tension,

When carrying out any adjustments to the conveyor belt it is important to remember that the conveyor belt must be adjusted equally on both sides of the conveyor bed. Failure to adjust the belt equally will result in premature wear and in turn failure of the conveyor belt and will not be covered by warranty.

5. Disconnect the AG dispenser hydraulic feed pipes.
6. Remove the four conveyor bed retaining bolts and disconnect the three hydraulic hoses going to the conveyor bed (As illustrated in section 7.2, PIC 7.2.2 and 7.2.3).
7. Start the tractor, tractor loader or handler and raise the dispenser into the upright position and then lower till approx. 1”or 25mm above the ground.
8. Slide the conveyor bed out of the right hand side of the machine (looking from the valve block side) far enough to access the two adjusting bars (picture 7.4.1).
9. To increase the conveyor belt tension wind the end nut back towards the end of the adjuster bar to allow the adjuster to move in the slide (picture 7.4.1).
10. Turn the second lock nut in the same direction which will push the head roller out and in turn increase the tension on the conveyor belt (picture 7.4.1).



PIC 7.4.1

Slacken the end nut before attempting adjustment.

Adjusting nut

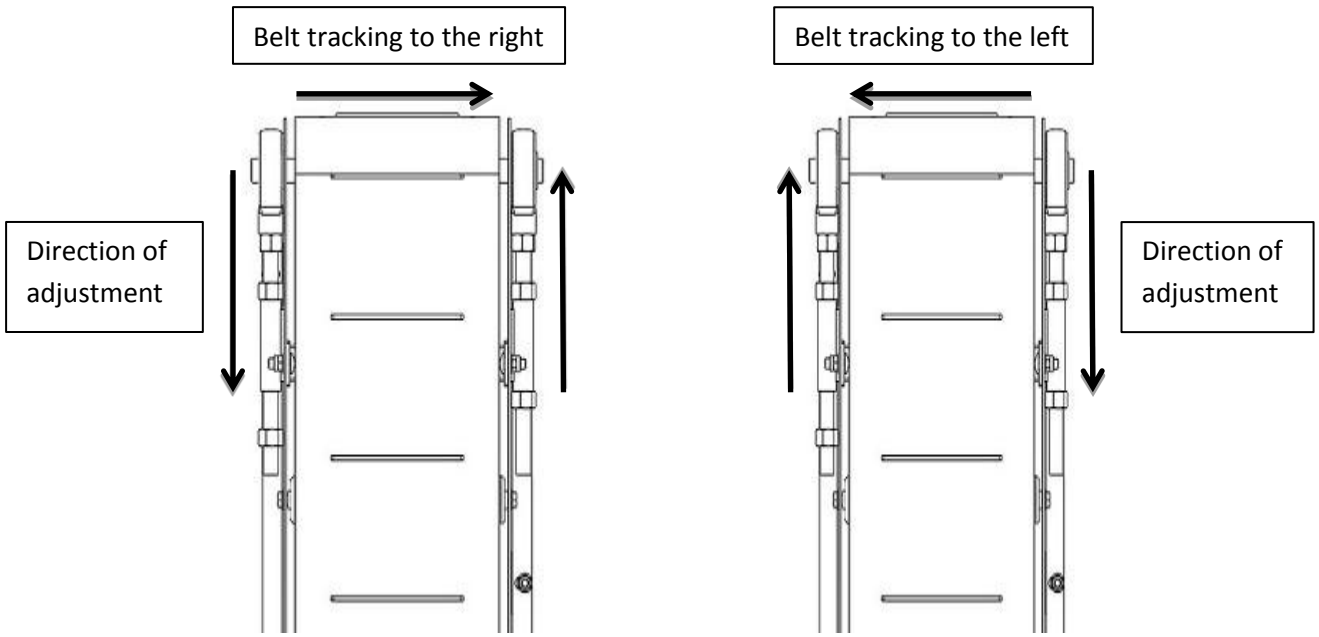
Bearing lock nut, only to be moved when replacing the bearing.

11. To check that the conveyor belt has been tensioned correctly use the method as described at the beginning of this section.

12. When you are satisfied that the conveyor belt tension is correct it is important that you now check that the conveyor belt is aligned correctly. The conveyor belt has two tracks which run along the underside outer edge of the belt. These tracks must be an equal distance from the head rollers on both sides of the conveyor belt.

13. If the tracks are of equal distance from the head roller the conveyor belt must be turned by hand at least two full revolutions and the distance checked again. If you are happy that after the second check that the distance is the same the M16 lock nuts can be locked into position and the conveyor bed can be re-fitted back into the base of the bin.

14. If the conveyor belt is found to be running out of alignment the head roller will need adjusting to move the belt either to the left or right hand side of the roller to centralise the belt (picture 7.4.2). Tensioning the bearing that the belt is tracking towards to move the belt towards the opposite side of the roller. Following any adjustments it is important that the conveyor belt is turned by hand and the tracking distance is checked again.



PIC 7.4.2

15. When you are satisfied that the tracking adjustment is correct the M16 lock nuts can be locked into position and the conveyor bed can be re-fitted back into the base of the bin.

    After carrying out any type of maintenance or service work it is important that the AG dispenser is operated empty to check for correct operation before the first load is loaded and dispensed.

7.5 STORING THE MACHINE

 Refer to section 2- 2.8 for accident prevention.

 Wear appropriate PPE (Personal Protective Equipment) when carrying out all maintenance or service work.

To ensure that the AG dispenser gives years of trouble free operation it is important that when the machine is not in use for a long period of time that it is cleaned and stored correctly.

- Clean the machine thoroughly.
- Apply a rust inhibitor to the bin surface.
- Grease all bearings and run the machine to circulate the grease.
- Store under cover.
- Store in the scooped position on dry ground or off the floor on suitable blocks or pallet.

Long term Storage in inclement weather prior to point of sale.

- Apply a rust inhibitor to all external parts of the machine.
- Grease all bearings and run machine to circulate grease and remove any moisture.
- Slacken drive V belts.
- Slacken main conveyor belt.
- Store inside in a scooped position on dry ground or on a suitable platform.
- Refer to sections 7.2 and 7.4 on pre delivery inspection to tension belts before initial run.

7.6 SERVICE SCHEDULE

The AG Dispenser is designed for the optimum performance with minimum requirement for maintenance however it is recommended that in high usage environments a thorough inspection is carried out every six months.

It is recommended that the following checks are carried out,

- Check condition of main bin
- Check condition and security of attachment brackets
- Signs and safety stickers in place
- Check hyd hoses, valves and couplings condition and leaks
- Check security of auger drive top hat
- Check security of auger bearing top hat
- Check security of auger motor
- Check security of auger gearbox
- Check auger bearing for excessive movement
- Grease auger bearing
- Check auger drive for excessive movement
- Check auger fighting for excessive wear
- Check condition and adjustment of conveyor side skirts
- Check conveyor, profiles, guides and belting
- Check condition and security of idler rollers
- Check condition of head roller
- Check condition of head roller bearings
- Grease head roller bearings
- Check condition of tail roller
- Check condition of tail roller bearings
- Check security of conveyor motor
- Check conveyor motor for external leaks
- Check conveyor drive pulley taper locks for security
- Check conveyor drive v belts for correct tension and condition
- Check v belt pulleys for wear and alignment
- Check spinner guard for security
- Check spinner drive pulleys for security
- Check spinner drive v belts for correct tension and condition
- Check six spline shaft for security
- Check condition of six spline shaft bearings
- Check spinner motor hoses for security and leaks
- Re-build and carry out full operation check

7.8 TROUBLE SHOOTING

In the unlikely event that the AG dispenser does not work first check that the oil pressure and flow from the tractor, loader or handler is sufficient to operate the machine and that all hose couplings are securely connected.

Problem	Possible cause	Remedy
Auger and conveyor very slow or not working in both directions	Oil restriction / Poor oil flow from main mover / Foreign object blocking auger / conveyor	Check for contamination / blockage in hyd hoses / valve block / QR couplings / increase flow / Check for blockage and re-move
Insufficient bedding being dispensed.	Slide holes set too small	Make holes bigger in slide to allow more product to flow through.
	Conveyor drive V belt slipping	Check and adjust as required Section 7.2
	Conveyor belt slipping	Check and adjust as required Section 7.4
	Bedding product bridging main auger	Fit top agitator / agitator not turning.
	Spinner V belts slipping	Check and adjust as required Section 7.3
Too much bedding being dispensed	Slide holes set to wide	Make holes smaller to reduce product flow.
	Machine running to fast	Slow machine down through the valve block. (consult AG Products before carrying out this task)
Product bubbling over the top of the bin when dispensing	Auger running too fast / conveyor running too slow.	Slow auger down through valve block, increase conveyor belt speed with faster pulley set

If you are unsure about any of the above problems please contact your local dealer or AG Products before you commence with the task.

Extender warranty / service package, call back request form

Customer name	
Address	
Contact number	
Machine model	
Serial number	
Date of pur-chase	

Please return this form to,

Garnett Farms Engineering Ltd
Hales Pasture Farm
London Road
Allostock
Nr Knutsford
Cheshire
WA16 9LT

Or alternatively phone the service department.
Tel: 01565 722103

WARRANTY REGISTRATION FORM

Garnett Farms Engineering Ltd
Hales Pasture Farm
London Road
Allostock
Nr Knutsford
Cheshire
WA16 9LT
UNITED KINGDOM

Tel: 01565 722922
info@ag-products.co.uk

Date of Purchase	

Customer Name	
Address:	
Tel :	

Dealers Name	
Address:	
Tel:	

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G.F.E. LTD IS ONE OF CONTINUOUS IMPROVEMENT. WE RESERVE THE RIGHT TO CHANGE PRICES OR SPECIFICATIONS OF OUR EQUIPMENT AT ANY TIME WITHOUT NOTICE.
ORDERS ARE ACCEPTED SUBJECT TO OUR STANDARD TERMS AND CONDITIONS.
ALL WEIGHTS AND MEASURES SHOWN IN ANY OF OUR BROCURES ARE APPROXIMATE.

WARRANTY

AS PART OF THE *AG* DISPENSERS AFTER SALES SUPPORT, PLEASE COUNTACT US AT ANY TIME.