Rotor Meter

ORIGINAL OPERATING MANUAL & PARTS LIST

Read carefully before installation and operation

MADE IN BRITAIN
EST.1977

Stocks Ag Limited.
Cromwell Road, Wisbech, Cambridgeshires, PE14 0SD, UK
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E.C. DECLARATION OF CONFORMITY

Machine Type:	**Mounted Agricultural Implement - Pellet and Seed application broadcasters**	
Model(s):	**Fan Jet Pro**	**All Variants and Versions**
	Fan Jet Pro Plus	**All Variants and Versions**
	Fan Jet Twin	**All Variants and Versions**
	Fan Jet Mini	**All Variants and Versions**
	Fan Jet Duo	**All Variants and Versions**
	Turbo Jet	**All Variants and Versions**
	Rotor Meter	**All Variants and Versions**
	Rotor Meter Air Force	**All Variants and Versions**
	Micro Meter	**All Variants and Versions**
	Maxi Meter	**All Variants and Versions**
Serial No.	.....	
Manufacturer:	**Stocks Ag Ltd** **Cromwell Road** **Wisbech** **Cambridgeshire PE14 OSD** **United Kingdom**	

This is to declare that the above machine conforms to the relevant Essential Health and Safety Requirements of the Machinery Directive 2006/42/EC, implemented in the United Kingdom by Statutory Instrument 2008 No. 1597 – The Supply of Machinery (Safety) Regulations 2008 as amended.

The following standards have been applied in the design and construction of this machine:

BS EN ISO 12100:	**2010**	**Safety of machinery – General principles for design – Risk assessment and Risk reduction.**
BS EN ISO 4254-1:	**2015**	**Agricultural machinery – Safety - General requirements.**
BS EN ISO 4254-8:	**2018**	**Agricultural machinery. Safety - Solid fertilizer distributors**
BS EN ISO 13854:	**2019**	**Safety of machinery – Minimum gaps to avoid crushing of parts of the human body.**
BS EN ISO 13857:	**2019**	**Safety of machinery – Safety distances to prevent hazard zones being reached by the upper and lower limbs.**

The manufacturer stated above holds the technical file for this machine.

Signed on behalf of Stocks Ag Ltd

Name:..... **J Woolway**

Date: **06th August 2020**

Position: **Managing Director**

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UKCA. DECLARATION OF CONFORMITY

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Signed on behalf of Stocks Ag Ltd

Name:..... **J Woolway**

Date: **01st December 2020**

Position: **Managing Director**

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1.0 General Information

Congratulations on your Rotor Meter purchase:

Please check the machine for any transport damage upon receipt and advise your supplier of any problems immediately. Late claims regarding any damage may be rejected.

Specifications descriptions and illustrations in this manual are accurate at the time of this publication but may be subject to change this manual are correct at the time of printing but we reserve the right to change and improve them. This machine is designed with safety in mind.

Maintenance and servicing in accordance with this manual will ensure safe operation and reliability of your machine for many years.

This operating manual forms part of the machine and must be readily available for the operator who must read and follow the points covered before use

1.1 Technical Data

Model: Rotor Meter Gravity Fed

Hopper capacity: 65 litre or 130 litre

65 litre machine:

Net weight: 35kg

Dimensions: WxDxH 50 x 53 x 103cm
boxed 51 x 58 x 94cm

Operating Voltage: 12v

Power Requirement: 15 amps

130 litre machine:

Net weight: 40kg

Dimensions: WxDxH 61 x 60 x 123cm
boxed 62 x 62 x 114cm

Motor outputs: 60 watt

Noise level: 60dB

Model: Rotor Meter Air Force

Hopper capacity: 65 litre or 130 litre

65 litre machine:
Net weight: 38kg
Dimensions: WxDxH 50 x 53 x 103cm
boxed 51cm x 58cm x 94cm

Operating Voltage: 12v

Power Requirement: 30 amps

130 litre machine:

Net weight: 43kg
Dimensions: WxDxH 61 x 60 x 123cm
boxed 62cm x 62cm x 114cm

Motor outputs: 180 watt

Noise level: 85dB

1.2 Intended Use

This machine has been designed to safely apply small seeds and granular products in the agricultural, horticultural and amenity sector for mounting onto various parent implements such as power harrows, seed drills, planters, and vineyard interrow equipment.

Any other use is considered to be non-intended and the manufacturer will not be liable for any resulting damage.

The manufacturer is not liable for any resulting damage if the machine is used for any other purpose than the intended use also includes compliance with the conditions for operation, maintenance, and repairs prescribed within this instruction manual.

NOTE: Do not operate this machine during adverse weather conditions.

The applicable accident prevention regulations as well as the other generally safety-related, occupational health and road traffic regulations must also be observed.

1.3 Unintended Use

This machine is not designed to apply abrasive materials such as sand & grit or for applying salt products.

The operator alone bears the associated risk if used for unintended use.

1.4 Machine Identification

Example Decal Only

The machine the serial number decals are mounted on the steel chassis to one side of the hopper

1.5 Warranty

We provide a 12 month warranty from the date of invoice (the invoice for the machine will serve as a warranty certificate).

This warranty is applicable for cases of material or construction faults and does not include parts that are damaged by normal or excessive wear.

Warranty expires if damage is caused by external forces, operator error, modifications, jet washing or if the machine has been used for unintended use.

In the event of any problems, or before attempting any repair please contact the company from where the machine was purchased. If the base machine or the controls system are modified in any way this will void any warranty claim.

Please see our conditions of sale for full details, a copy of which available upon request.

Please record the machine serial number here: S/N .....

Purchase date: ..... Dealer .....

2.0 Safety

Ensure care is taken when lifting the machine. Safe lifting practice to be observed when handling as the net weight is over 25kg.

- We advise safety shoes and protective gloves are worn when handling the machine.
- Assistance will be required when lifting or lowering the machine.
- Care to be taken to avoid crushing due to the weight of the machine.
- When lifting or fitting the machine on to a parent vehicle or implement ensure work is performed on level ground or flat surface to avoid slipping, stumbling or falling.

PERSONAL PROTECTION EQUIPMENT

It is the responsibility of the operator or maintenance engineer to ensure safe handling of the machine and the appropriate personal protection equipment must be worn for the material being applied and to prevent contamination to the machine or the environment.

⚠ **WARNING! Ear protection required if working in close proximity to the machine as it exceeds 80dB.**

PRODUCT APPLIED

If applying slug pellets or other toxic material and the parent vehicle has a closed cab the operator must ensure the cabin is always closed and the air filter system is in good order. If fitted to a UTV vehicle ensure the stability of the parent vehicle is not affected when the machine is in use. If in doubt contact the vehicle manufacturer for more information. After working the machine ensure that any unused product is returned safely to its original packaging. Stocks Ag Ltd. does not accept any liability for the storage and use of the material being applied.

NOTE: If unsure contact your seed or product supplier for more information.

⚠ **WARNING! Always observe all application standards and guidelines provided by the product manufacturer as some seed dressings and granular products may be toxic.**

OPERATION AND MAINTENANCE

The machine may only be used, maintained and repaired by persons who have relevant experience or a machinery dealer who is aware of any risks involved. The applicable accident prevention regulations as well as the other generally safety related, occupational health and road traffic regulations must also be observed.

The manufacturer is not liable for any damage resulting from unauthorised modifications and the use of components and auxiliary parts. The machine must be checked regularly by the operator before each use for any damage, loose bolts or electrical connections, vibrations, unusual sounds, and to ensure they function correctly.

The machine must not be operated in wet weather conditions or during thunderstorms. Observe the generally applicable safety and accident prevention regulations. Always empty the hopper of toxic materials to prevent harm to humans and animals after each use and prior to storage.

⚠ **WARNING! Do not put your hands inside the hopper when the agitator motor is turning as the agitator shaft inside the hopper rotates at high speed and is sharp and dangerous**.

⚠ **WARNING! Always isolate the power supply if servicing or leaving the machine.**

2.1 Safety Warning Decals

Important: **Be aware of the safety warning below which are all relevant to this machine**

⚠ WARNING!

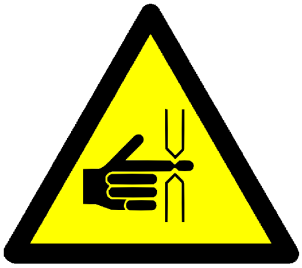
Read and understand the Operators Manual instructions before operating this machine.

Operator errors can result in serious injury.

⚠ WARNING!

Danger due to thrown or flying objects.

Always maintain a safe distance whilst the machine is in operation.



⚠ WARNING!

Risk of injury. Possible trapping point when tipping hopper.

⚠ WARNING!

Risk of injury.

Be aware the feed mechanism is powerful and can cause serious injury.

⚠ WARNING!

Keep Clear!

Maintain a safe distance from the machine when in operation.

Wear the appropriate protective personal equipment.

⚠ WARNING!

Do Not Jet Wash This machine is not designed to withstand Jet Washing.

3.0 Emergency Stop Instructions

3.1 Vari-Speed

1. Power down the control system immediately by switching the main power switch on the left hand side of the cab control panel to the upper position **A.**

Vari-Speed Control Panel

2. Disconnect the power supply by unplugging the power cable or removing the inline fuse.

Air Force Control Panel

3.2 i-CON

1. Power down the control system immediately by pressing and holding down the left-hand rubber end cap on the instrument control panel for approx. 2 seconds — then release to power off.

2. Disconnect the power supply by unplugging the power cable or removing the inline 40amp fuse.

i-CON Control Panel

4.0 Storage

Disconnect the power supply by unplugging the power cable or by removing the fuse fitted in the power cable.

It is the responsibility of the operator to ensure the hopper is empty after each and use and cleaned thoroughly before storage.

Store in dry conditions to protect the machine and control system from moisture.

Always clean and spray electrical connectors with a moisture repellent spray when not in use for long periods.

5.0 PVC Waterproof Covers - Optional

Heavy duty White PVC cover fitted with eyelets and bungie cord for easy attachment.

Please contact your local Stocks Ag dealer for more information.

6.0 Disposal

Ensure that any persons handling the machine are aware that the machine may have been used to apply toxic chemicals and so the appropriate personal protection equipment should be worn.

Ensure the hopper contents have been removed and any toxic residue removed and put back into a sealed container or disposed of in accordance with the manufacturers guidelines to eliminate any possible contamination of others or the environment.

Always adhere to the local disposal regulations paying particular attention to the plastics, rubber, and electrical components.

7.0 General Maintenance

⚠ **WARNING! Always ensure the power supply is disconnected before any maintenance work or cleaning of this machine by unplugging the power cable or removing the fuse in the power cable.**

Ensure the parent machine is stationary and parked on level ground before working on the machine.

The machine must be checked regularly by the operator for any damage loose bolts or electrical connections, vibrations, unusual sounds, and to ensure they function correctly.

⚠ **WARNING! Protective clothing must be worn when applying or handling toxic products.**

Always observe all guidelines provided by the product manufacturer with regards to handling, storage and disposal of products. Take care not to spill any product that could contaminate the machine or the environment ensuring any product removed from the machine is put back into its original container.

7.1 Before Use

1. Ensure the machine is securely mounted.

2. Check the power supply.

3. Ensure all feed outlets, air chamber Air Force machines and all feed hoses are clear of any product.

4. Check the feed block is configured correctly and free running before starting work.

7.2 Daily Checks

1. Check the feed motor and 12v Fan Air Force machines are working correctly.

2. Ensure feed outlets and air chamber Air Force machines and all hoses are clear of product

7.3 After Each Use

1. Empty hopper before removing the feed block assembly and clear the machine thoroughly ensuring all product residue has been cleaned from the hopper feed rollers and body of the machine.

2. Store in dry conditions to protect the machine and control system from moisture.

⚠ **WARNING!**

DO NOT JET WASH THIS MACHINE.

8.0 Mounting Plate

Mount the machine using the Base Plate.

This has 4 holes in the base to take M12 bolts see below use these to attach to the parent vehicle and is attached to the chassis by 2 bolts and spacers which act as the pivot, and a removable steel pin secured by an 'R' clip.

Gravity fed machines: Mount the base plate at the rear of the machines to allow room for feed hoses.

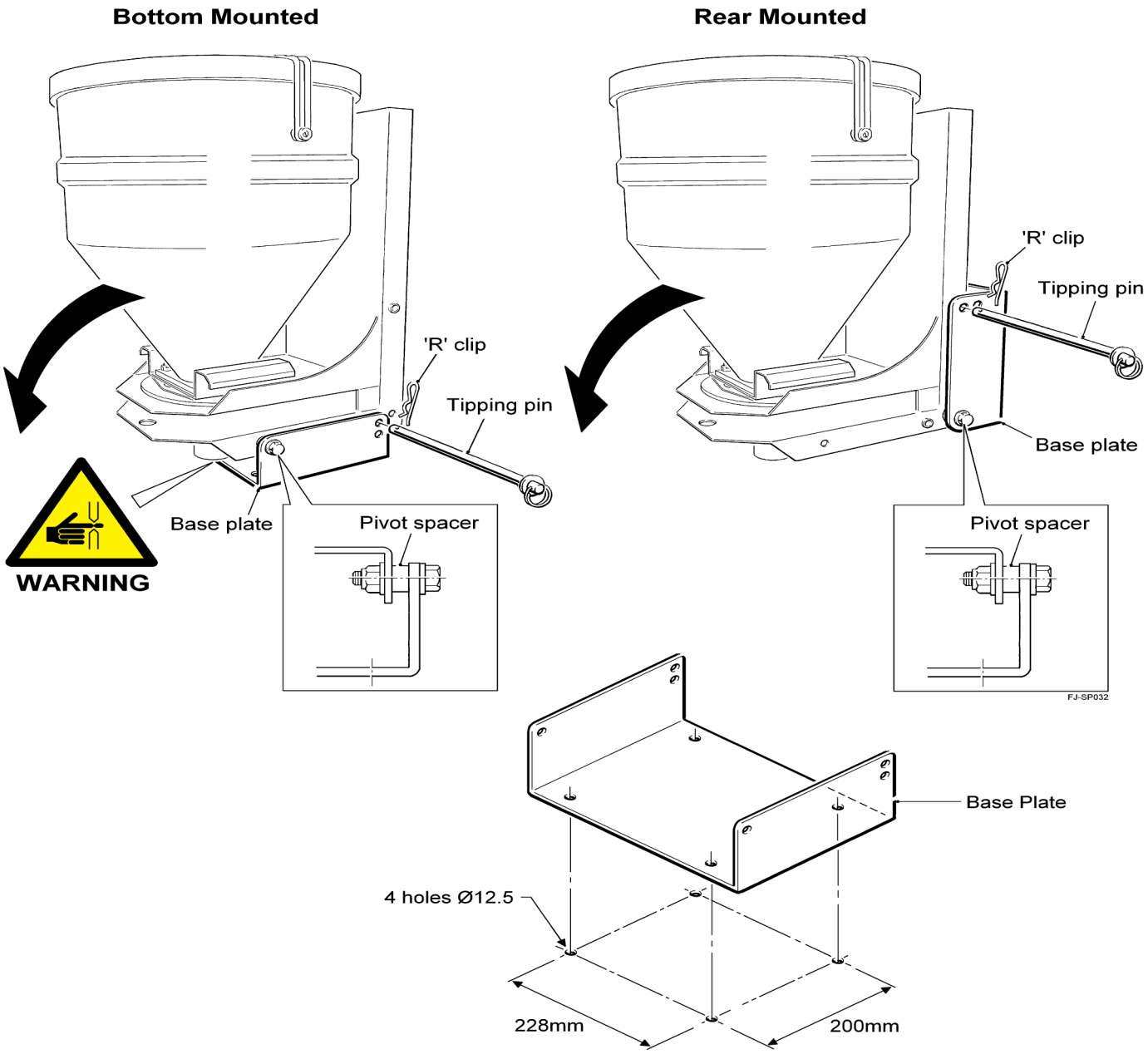
Air fed machines: The base plate can be base or rear mount.

Ensure there is sufficient room to tip the hopper for emptying and ensure any potential trapping points are noted taking care not to trap hands or fingers.

NOTE: Feed hoses will need to be removed before tipping the hopper.

The machine must be on level ground or flat surface before tipping the hopper to avoid the hopper accidently tipping forward once the tipping pin has been removed.

To tip the hopper, remove the pin whilst supporting the hopper, lower gently when emptying the hopper.



Additional Base Plates available: Part No. GA069.

9.0 Hopper Emptying Procedure

Removing the hopper for cleaning and maintenance.

Ensure the hopper is completely empty and free from any product residue.

Ensure appropriate personal protection equipment is worn for the product being applied.

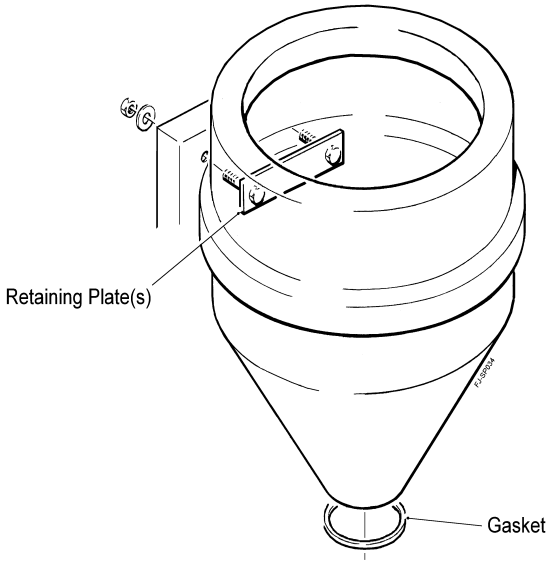
Release the rubber lid retaining straps and remove the lid. The hopper can then be lifted away after removing the retaining plates from within the hopper by releasing the M8 external fixing nuts and washers.

NOTE: When replacing the hopper ensure the Gasket fitted under the base of the hoper is in good order. Replace if damaged.

Part number: FJ017S.

Ensure that any persons handling the machine are aware that the machine may have been used to apply toxic chemicals and so the appropriate personal protection equipment should be worn.

Ensure the hopper contents have been removed and any toxic residue removed and put back into a sealed contained or disposed of in accordance with the manufacturers guidelines to eliminate any possible contamination of others or the environment.



9.1 Clearing A Blockage

Disconnect the main power supply.

Ensure the main power switch on the control panel is off and unplug the 2 core power supply cable from the control box or disconnecting the power cable from the vehicle battery.

Ensure appropriate personal protection equipment is worn for the product being applied

Ensure any product removed is put back into its original container. Care to be taken not to spill any product that could contamination the environment.

Empty the hopper of any remaining product.

10.0 Machine Components

10.1 Feed Motor

The feed motor can be turned ON or OFF, either manually via the head unit, or automatically by the remote mounted spring finger switch which can be fitted to the linkage or the implement. The feed motor must be switched ON via the head unit for the spring finger switch to work automatically.

10.2 12v Fan Unit Air Force Models Only

The fan can be switched on and off and the fan speed adjusted on the instrument panel.

10.3 GPS Sensor i-CON Models Only

Small and compact with integrated magnetic base for ease of fitting to tractor cab or suitable mounting position. Fitted with a 5m lead which plugs into the i-CON instrument connector cable.

10.4 Main Power Cable

The power cable should connect directly to the vehicle battery posts to ensure adequate 12v supply to the disc motor. The in-line is 15amp. This 7m power cable connects from the battery to the power input fly-lead on the machine.

10.5 Instrument Lead

The 6m instrument lead connects to the junction box of the Rotor Meter and runs to the control panel in the tractor cab.

NOTE: Extension power and instrument cables available if required.

Please contact your local Stocks Ag dealer for more information.

10.6 Spring Finger Switch

Optional for Vari-Speed

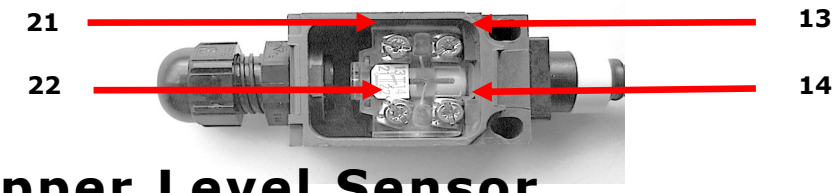
The switch should be mounted to a suitable place on the implement or linkage of the tractor, thus deflecting the spring, and automatically switching the feed motor off or on accordingly as the circuit is made or broken.

Position the finger switch so that the tip of the spring comes into contact with the moving part of the implement or linkage when lifted out of work, and remains deflected until the implement is lowered back into work.

NOTE. Ensure that there is sufficient and positive deflection on the spring to prevent accidental switching ON or OFF if the implement moves slightly up or down in work.

The standard wiring as supplied for this switch is when the spring is at rest, the feed motor will run normally. If required, the switch can work in the opposite mode by changing the position of the 2 wires inside the switch so that the switch is out of work when the sprung is at rest. To change over remove the PVC cover plate held in position with the retaining screw to access the wiring terminals. Remove the 2 wires from terminals 13 and 14 and re-connect to terminals 21 and 22 nearest the gland nut then re-fit the PVC cover plate.

NOTE: The area meter also stops when the feed motor stops.



10.7 Hopper Level Sensor

Optional for Vari-Speed

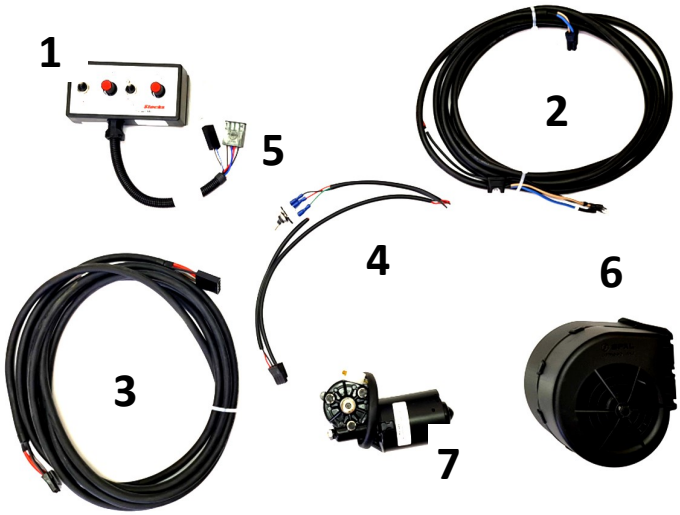
The instrument will alarm once the product in the hopper falls below the level of the sensor.

11.0 Vari-Speed Control System

11.1 Electrical Components

Vari-Speed Machine Components

1. **GA115B** Control Panel
2. **MM107B** 5m Fused Power Cable
3. **MM108B** 6m Control Connector Cable
4. **MM044B** Feed Motor



Air Force Machine Components

1. FJ110D	Control Panel
2. FJ107F	7m Fused Power Cable
3. FJ108D	6m Control Connector Cable
4. FJ109D	Tail Piece
5. FJ055A	Toggle Switch
6. TJ120	12v Fan Unit
7. MM044C	Feed Motor

11.2 Electrical Connections

Power requirement is 12 volts with a minimum continuous 15 amp supply for a gravity fed machine or 30amps for an Air Force machine.

The machine is supplied with a control console and all wiring.

Ensure the power supply cable 2 is connected direct to the vehicle battery to ensure maximum power. Connect the positive wire fused to the positive + terminal and negative earth connection to the negative - terminal.

Control extension cables available please enquire.

⚠ **WARNING! Failure to connect to the vehicle battery may result in control function problems and possible damage to the vehicle battery and charging system must be in good condition to achieve the best results.**

All cables and controls are fitted with matching plugs and sockets.

⚠ **WARNING! Any modification to the wiring, fuse holder or controls will invalidate any warranty claim and may affect the performance of the machine.**

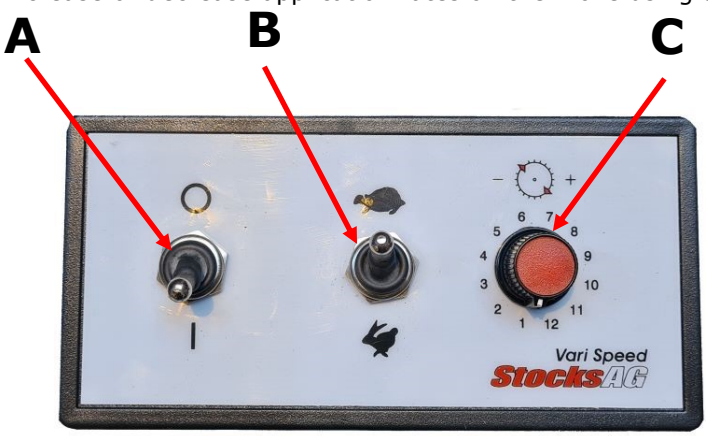
Always replace any blown fuse with the same amp rated blade type fuse as the original one fitted.

11.3 Control Boxes

⚠ **WARNING! Ensure the position and operation of the control panel does not affect the visibility of the operator or the ability to control the parent machine.**

11.4 Vari-Speed Control

This is a simple and effective low cost manually operated electric control used to instantly start and stop the feed motor at headlands and uses a dial control to set the feed motor speed and thus the application rate. It is not linked to forward speed so once calibrated the operator drives at a consistent forward speed to maintain the rate, or can manually increase or decrease application rates on the move using the dial.



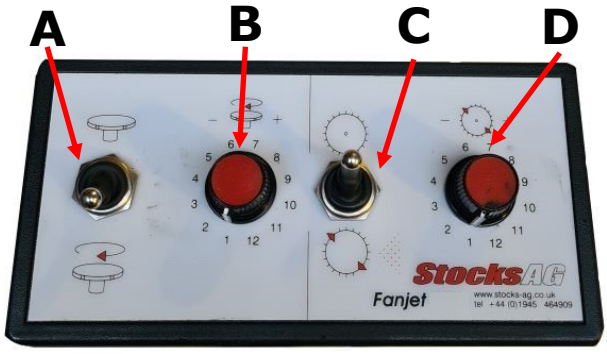
The left hand toggle switch **A is Power On / Off** and starts and stops the feed motor.

The motor is 2 speed and is switched using the centre toggle switch **B from Low to High**.

A 12 position rotary dial **C offers 12 different speeds** in each range, providing a total of 24 different motor speeds. Application rates are increased with higher motor speeds and decreased with lower motor speeds.

11.5 Air Force Control

This is a simple and effective low cost manually operated electric control used to instantly start and stop the feed motor at headlands, and uses a dial control to set the feed motor speed and thus the application rate. It is not linked to forward speed so once calibrated the operator drives at a consistent forward speed to maintain the rate, or can manually increase or decrease application rates on the move using the dial.

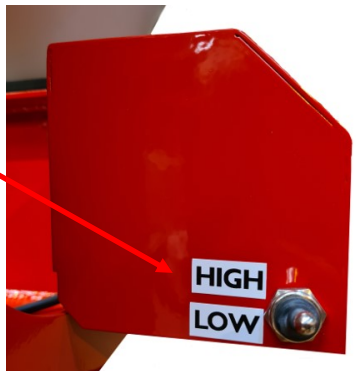


- The left hand toggle switch **A is Power On / Off** and starts and stops the fan motor.
- The fan motor is controlled using the left hand 12 position rotary dial **B offering 12 different speeds**.
- The right hand toggle switch **C is the feed motor control** and starts and stops the feed motor.
- The right hand rotary dial **D adjust the motor speed**.

The feed motor is 2 speed, and the 2 speed toggle switch is located on the feed motor splash guard marked **HIGH** / **LOW**.

Select motor speed as required, and the 12 position rotary dial gives 12 different speeds in each range, providing a total of 24 different motor speeds.

Application rates are increased with higher motor speeds and decreased with lower motor speeds.



11.6 Remote Switch Facility

Both control panels have a spare white wire within the wiring harness which can be earthed to negative - via a suitable remote switch to switch off the feed motor e.g. an additional switch can be positioned can be positioned so it is activated when the parent implement is raised and lowered.

NOTE: Heavy duty cut out switch available: for more information please consult your local Stocks Ag dealer.

12.0 i-CON Control System

All control system components integral to the Seed Applicator Unit are factory fitted in.

The Instrument has a 4.3" Colour Touch Screen which has 4 basic menu keys.

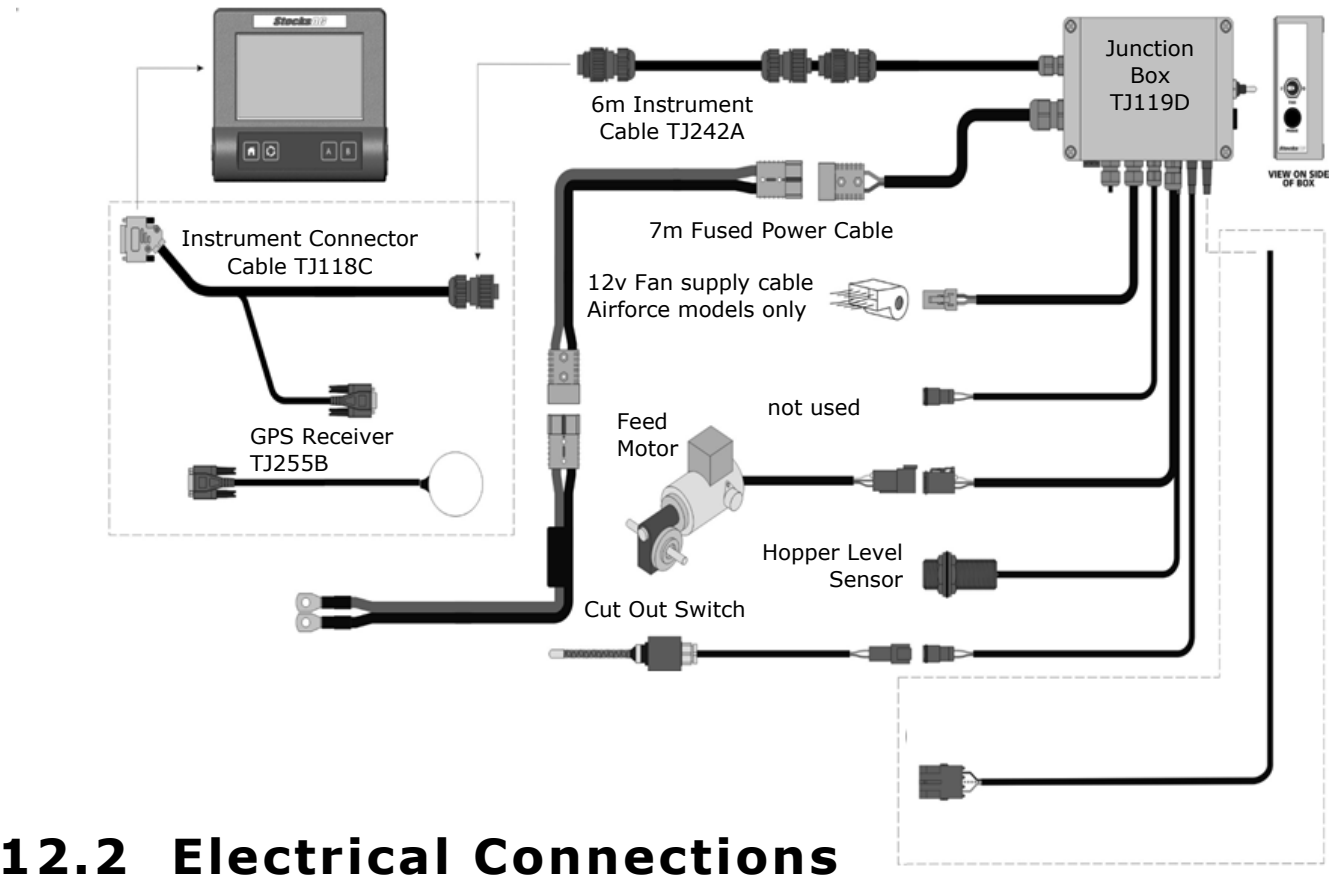
Separate heavy-duty power cable and head unit leads interconnect the tractor and the Seed Applicator Unit.

The following components need to be installed during fitment packed in hopper from factory.

- i-CON Instrument: TJ117C
- Instrument cables: TJ118C and TJ242A
- Power Cables: FJ107E
- GPS Receiver: TJ255B
- Cut out Switch: TJ252

12.1 Wiring Diagram

i-CON Instrument TJ117C



12.2 Electrical Connections

Ensure the power supply cable is connected directly to the vehicle battery to ensure maximum power.

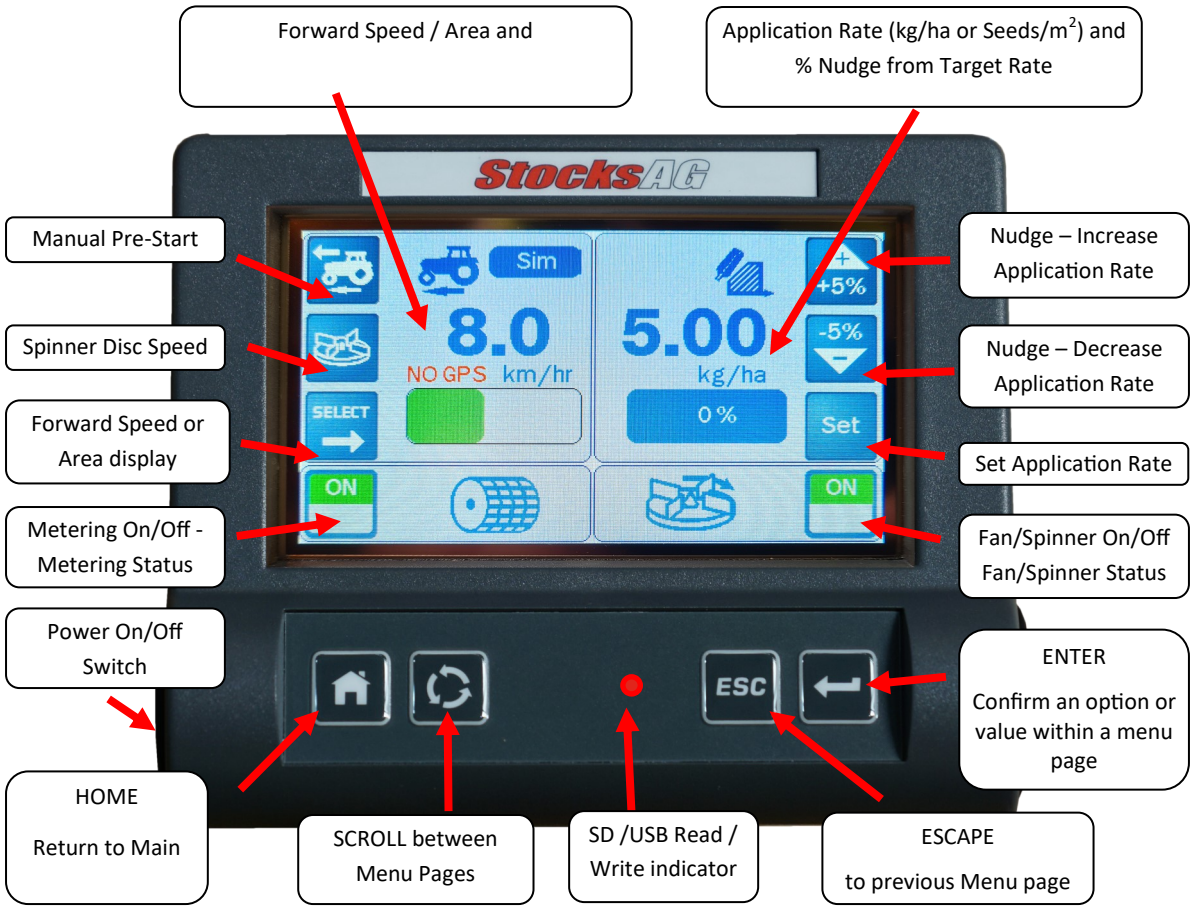
Connect the positive wire (fused) to the positive (+) terminal and negative earth connection to the negative (-) terminal. The disc should rotate in a clockwise direction when viewed from above

Failure to connect to the vehicle battery may result in control function problems and possible damage to the vehicle battery and charging system must be in good condition to achieve the best results. All cables and controls are fitted with matching plugs and sockets. Extension cables available.

Any modification to the wiring, fuse holder or controls will invalidate any warranty claim and may affect the performance.

Always replace any blown fuse with the same rated fuse as the original one fitted.

12.3 i-CON Instrument Functions



- Seed Application Rate (kg/ha or Seeds/m2).
- Forward Speed (km/hr).
- Minimum/Maximum Forward Speed indicator with alarms, (beyond which the programmed seed rate cannot be maintained).
- Metering Unit Status (On/Off) and Alarm.
- Fan (or Spinner - depending on installation) Status (On/Off) and Alarm.
- Hopper contents (kg) and Low Level Alarm.
- Part and Full (Job) Totals for Area (ha), Product dispensed (kg) and hours worked.
- Grand Total for Area (ha), Product (kg) and hours worked.

Other features include,

- Simple and intuitive touchscreen Alarm codes and diagnostic displays in the event of system malfunction.
- Menus for Forward Speed / Product calibration and adjustment.
- Pre-start' - ensures seed delivery begins immediately the drill enters work (user-programmable).
- Rate 'Nudge' – on-the-move rate adjustment in pre-set increments (user-programmable).

NOTE: A comprehensive control system user guide also supplied (packed with the i-Con instrument).

12.4 Precision Farming Software - Optional

The instrument can be unlocked to activate the precision farming program as a cost option

This is something that can be requested when the machine is purchased or can be added at a later date

Please contact your local Stocks Ag dealer for more details.

13.0 i-CON Calibration

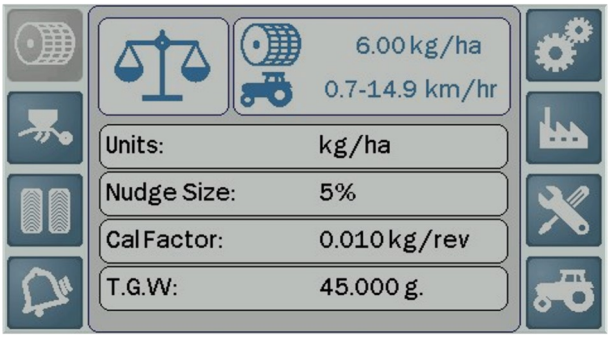
You will need a suitable container to collect the product or seed when calibrating and an accurate set of scales which weighs in grams.

13.1 At The Machine

1. Fit the calibration hopper and feed block assembly.
2. Position a suitable collection tray directly underneath the calibration hopper to catch the product.
3. Place a few kilograms of seed in the hopper.

13.2 At The i-CON Instrument

1. Switch the spinning disc / fan off at the instrument



2. Switch the head unit ON via the left hand side push button – wait until the start-up routine has finished and displays the main "home screen".

3. Scroll through to the Setup Menu and select the Applicator Icon.

4. Adjust the implement width accordingly - refer to the RDS manual, Set Implement Width.

5. Ensure the correct application rate is entered – select and adjust accordingly, refer to the RDS manual, Setting the Application Rate.

6. Ensure the feed roller setup is appropriate for the intended product or seed type, application rate and forward speed range for application.

7. The instrument calculates the calibration factor from the working width, target application rate, and the metered weight delivered whilst calibrating. If however as a result of the calibration routine, you find that you cannot achieve your desired field speed, displayed in the top right corner of the screen, then re-configure the feed roll assembly and repeat the calibration procedure.

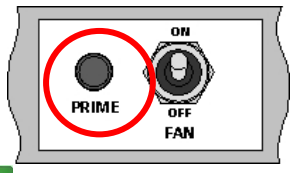
8. Prime the feed rolls with product by pressing and holding briefly the prime button on the junction box - this will ensure a higher initial calibration accuracy, empty the contents of the tray back into the hopper.

9. For an **Auto Calibration** from the Product Setup page, touch

10. Touch Set and enter the quantity that you wish to dispense for calibration purposes. You can enter the quantity in grams if preferred. The CAL factor will however, still be calculated in kg/rev.

11. Touch on the screen page Start

12. After the Start key the motor runs at the calibration speed (calculated from the Simulated Forward Speed, Width, Application Rate and current calibration factor).



13. The dispensed weight (based on the current calibration factor) is displayed.

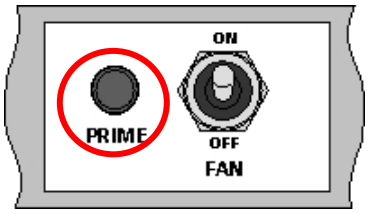
14. Weigh the product dispensed and then enter the measured weight, and press OK

15. A new calibration factor is then re-calculated and displayed.

16. Your in-field min and max speeds will be displayed as per the image to the right hand side. If you find that you can not achieve your desired field speed, then re-configure the feed roll assembly and repeat the calibration procedure **NOTE**: Recommended min speed 0.8kph - 1.2kph (if not see feed roller configuration).

17. Touch OK to save the new factor, it is advised to repeat the calibration two more times to ensure accuracy.

13.3 Manual Calibration



1. For a **Manual Calibration** press and hold the Prime button on the junction box, the larger the quantity dispersed the higher the accuracy the final calibration factor will be, release the prime button once sufficient product has been dispensed. The estimated dispensed weight based on the current calibration factor is displayed.

3. Weigh the product dispensed in grams and then enter the measured weight, and press OK

4. A new calibration factor is then re-calculated and displayed.

5. Your in field min and max speeds will be displayed. If you find that you cannot achieve your desired field speed, then re-configure the feed roll assembly and repeat the calibration procedure.

6. Touch OK to save the new factor, it is advised to repeat calibration two or three more times to ensure accuracy.

13.4 GPS Speed

The i-CON control system is automatically configured to run with GPS receiver supplied and is a simple plug and play device. This system only works outside and if you are not receiving a GPS signal an alarm will displayed on the main screen indicating NO GPS.

13.5 Common Calibration Mistakes

- Ensure you enter the width and required rate correctly – that the decimal point is in the correct position. If the rate is 2.5 kg/ha, enter 2.5. not 25 - which is 25kg/ha.
- Remember to deduct the weight of the collection bag or bucket – weigh only the contents.
- Ensure you work in grams – not kilograms.
- Ensure you are working in the mode required – either Kilograms per Hectare or Seeds per Square Metre. The standard default mode for the i-CON is in kgs/ha and you will have to reconfigure the display if you want to display Seeds per Square Metre. You do not need to enter or change the TGW if working in Kgs/Ha – only if working in Seeds per Square Metre - Refer to the RDS manual.
- Ensure you check the minimum and maximum speeds displayed, and that they are sensible for your field operation. This is the speed range that the i-CON can maintain the required application rate, and depends on the width of your machine, the application rate required, and the type and configuration of feed rolls fitted.
- Ensure that the speed range will work for you in the field – ensure that your target forward speed will not be close to either the minimum or the maximum of the range, and that you have some reserve of speed range above and below the in-field forward speed. Ideally your forward speed will be in close to the middle of the range.
- If the minimum is too high, for example 4kph then the feed motor will be running too slowly if your forward speed drops towards the minimum as you set in and lift out of work, and this could result in missed patches although the alarm will trigger when either the minimum or maximum speed is reached.
- If the indicated speed range does not work for your operation, you must change the feed roll configuration or the type of feed roll to apply more or less seed, per revolution of the feed mechanism, as required. Once completed, recalibrate and note the new speed range.

13.6 Ready For Work

Gravity Fed

Ensure the feed motor is running.

Check all outlet pipes are seeding correctly before commencing work.

Air Force Models

Ensure the feed motor is running.

Ensure the fan switch is on.

Check all outlet pipes are seeding correctly before commencing work.

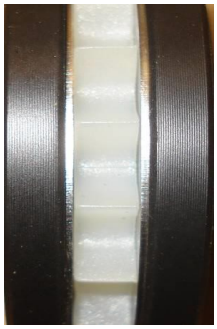
13.7 Setting The Feed Rate

The feed rate is adjusted by the feed motor speed and by fitting different feed roller combinations. Each combination giving different feed rates of material per revolution. Refer to the Calibration Procedure and with the appropriate feed rollers fitted, follow the instructions. You may have to change the feed rollers to obtain the application rate within a sensible forward speed range which is calculated during the calibration procedure.

13.8 Feed Roller Configuration

Single outlet machines are fitted with 11 white 5mm, 18 tooth feed rollers. The 3 outlet machine are fitted with 15 white feed rollers 3 banks of 5 as standard, with maximum rates achieved by retaining all 11 or 15.

Depending on the combination of required seeding rate, implement width and forward speed feed rollers can removed and replaced with 5mm Black Blanking spacers supplied with the machine to reduce the feed rate.



NOTE: Always ensure a stainless steel shim washer is fitted to each side of the bank or individual 5mm white feed rollers when fitted.

They are important and needed to reduce friction between the feed rollers and the plastic spacers.

For higher outputs or applying large seeds or granules the machine is also supplied with 2 larger 8 section feed rollers and spacers to allow 1 or 2 to be fitted as required.

The feed rollers are easily changed by removing the feed block as follows.

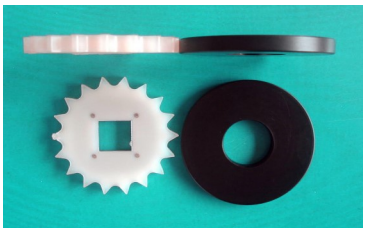


Photo below showing a feed block assembly with 6 feed 5mm rollers and 5 blanking spacers fitted.

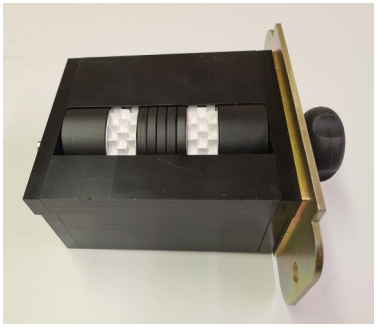


Photo below showing a feed block assembly with 2 larger 8 section feed rollers fitted.

NOTE: Empty the hopper completely before removing the feed block.

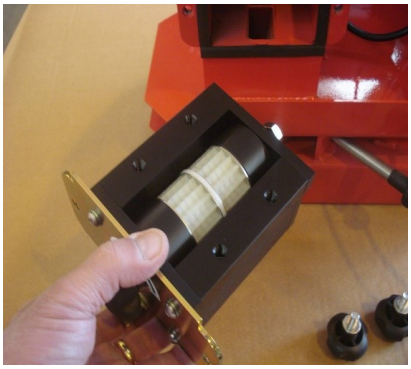
1. Undo and remove the 2 black plastic knobs holding the feed block in place.

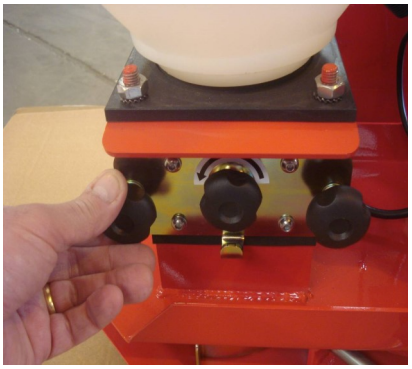
2. Slide the complete mechanism out

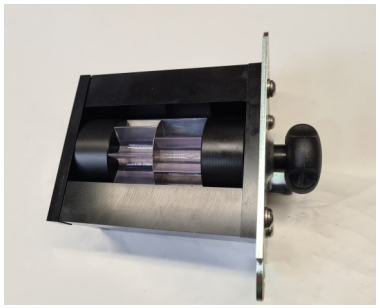
3. Undo and remove the 4 socket head screws on the end of the housing opposite the retaining plate and remove the end plate.

4. Slide the rollers and spacers off the shaft and replace with the alternative rollers and spacers in the required combination.

5. Refit the end plates and re-fit the feed block and black plastic knobs.







When re-fitting the end plates to the feed block after changing the configuration, the end plate should be able to fit flush with the feed block by hand, without having to pull it home with the socket head screws. The assembled rollers and spacers should not be under compression.

NOTE: You should be able to rotate the feed shaft with your fingers – if it feels excessively tight, check the feed roller and spacer composition or call Stocks Ag for advice.

⚠ **WARNING! Always observe all application standards and guidelines provided by the product manufacturer as some products may be toxic.**

If unsure contact your supplier for more information.

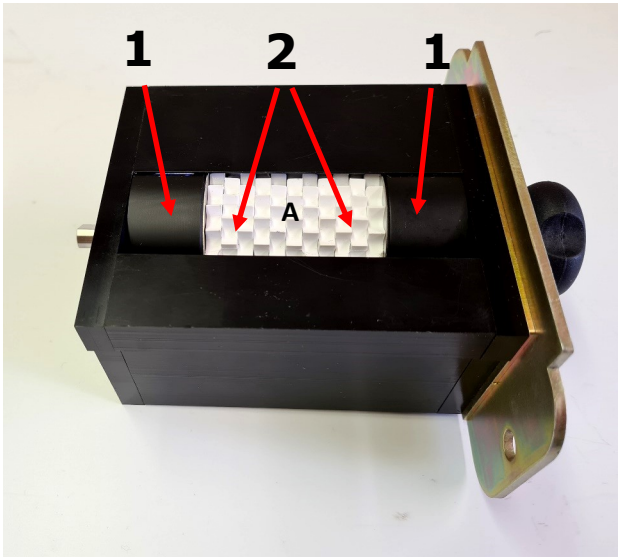
17.0 5mm Feed Roller Combinations

Feed rollers and spacer arrangement for single outlet machines

1. 24mm Black Spacer

2. Stainless Shim Washer

A. 5mm Feed Rollers



Feed rollers and spacer arrangement for 3 outlet machines and 2 outlet operation

1. 3mm White Spacer.

2. Stainless Shim Washer.

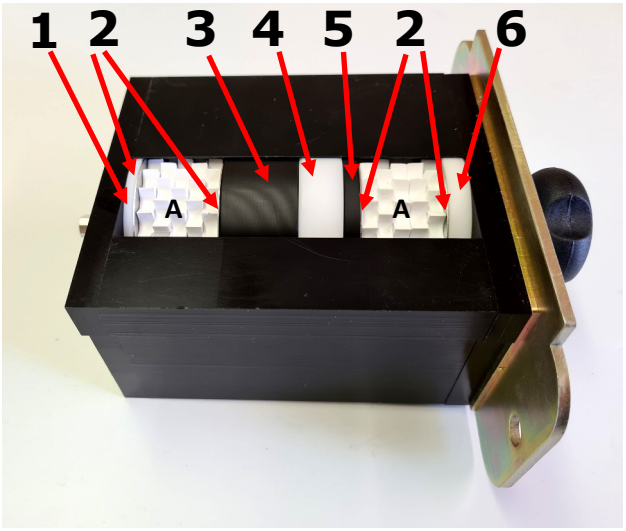
3. 24mm Black Spacer.

4. 13mm White Spacer.

5. 5mm Black Spacer.

6. 6.5mm White Spacer.

A. 5mm Feed Rollers.



Feed rollers and spacer arrangement for 3 outlet machines and 3 outlet operation

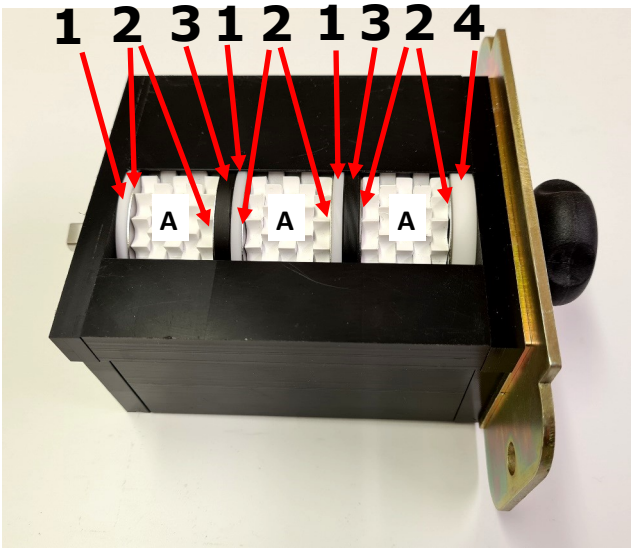
1. 3mm White Spacer.

2. Stainless Shim Washer.

3. 5mm Black Spacer.

4. 6.5mm White Spacer.

A. 5mm Feed Rollers.



17.0 Section Feed Roller Combinations

Feed roller and spacer arrangement for 1 outlet machines fitted with 1 feed roller

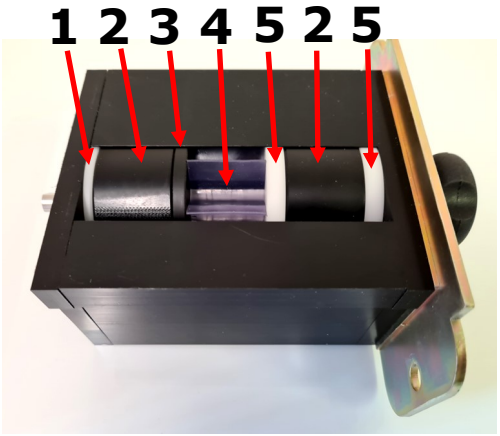
1. 3mm White Spacer

2. 28mm Spacer

3. 5mm Black Spacer

4. Feed Roller

5. 6.5mm White Spacer



Feed rollers and spacer arrangement for 1 outlet machines fitted with 2 feed rollers

1. 24mm Black Spacer

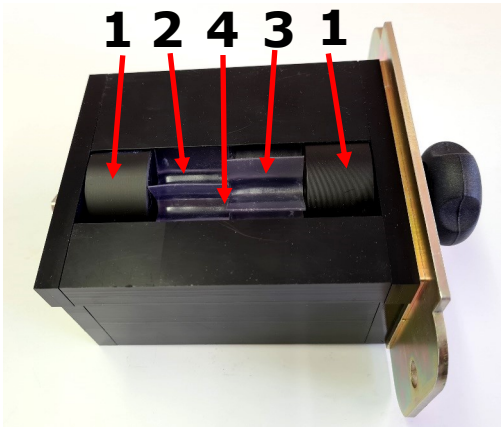
2. Feed Roller "A"

3. Feed Roller "B"

4. Stainless Steel Shim

Part No. GA110B-A

Part No. GA110B-B



Feed roller and spacer arrangement for 3 outlet machines for 2 outlet operation

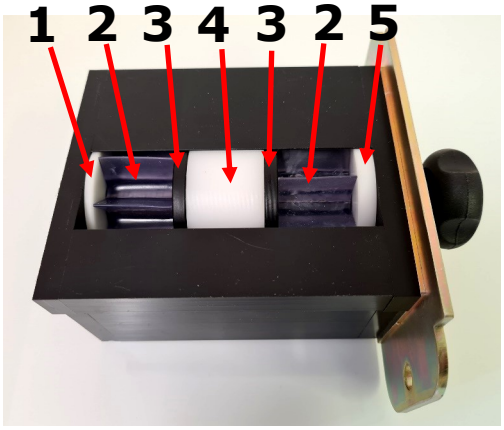
1. 3mm White Spacer

2. Feed Roller

3. 5mm Black Spacer

4. 28mm Spacer

5. 6.5mm White Spacer



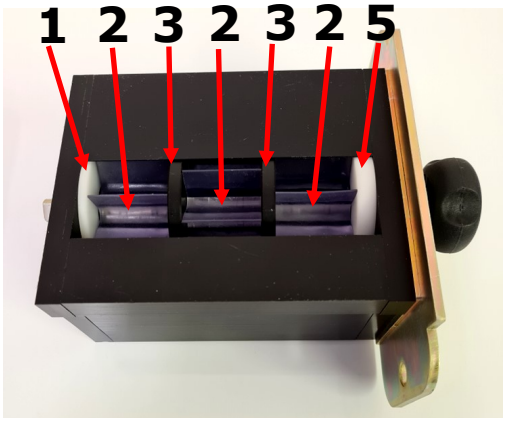
Feed roller and spacer arrangement for 3 outlet machines for 3 outlet operation

1. 3mm White Spacer

2. Feed Roller

3. 5mm Black Spacer

5. 6.5mm White Spacer



Vari-Speed Product Calibration

To establish the correct flow rate of pellets for your bout width, forward speed and application rate use the below formula.

$$\frac{\textbf{Application rate}\ \text{kgs/ha} \times \textbf{forward speed}\ \text{kph} \times \textbf{spread width}\ \text{metres}}{\textbf{600}} = \textbf{Flow rate}\ \text{in kgs per min}$$

Example 1.

The required application rate is 35 kilograms per hectare. The target forward speed is 10 kilometres per hour. The bout width is 6 metres wide.

$$\frac{\textbf{35}\ \text{kgs/ha} \times \textbf{10}\ \text{kph} \times \textbf{6}\ \text{m}}{\textbf{600}} = \textbf{3.5}\ \text{kgs per min}$$

Example 2.

The required application rate is 5.5 kilograms per hectare. The target forward speed is 10 kilometres per hour. The bout width is 4.5 metres wide.

$$\frac{\textbf{5}\ \text{kgs/ha} \times \textbf{10}\ \text{kph} \times \textbf{4}\ \text{m}}{\textbf{600}} = \textbf{0.333}\ \text{kgs per min}$$

15.0 Calibration Catch And Weigh Test

1. Position a collection container directly underneath ALL outlet pipes to catch the product being calibrated.

2. Put a small amount of material in the hopper.

NOTE: Do not fill the hopper at this stage as the feed block assembly may have to be removed and the feed rollers changed to achieve the correct feed rate kgs/Ha at the required forward speed kph.

3. Perform the catch and weigh test.

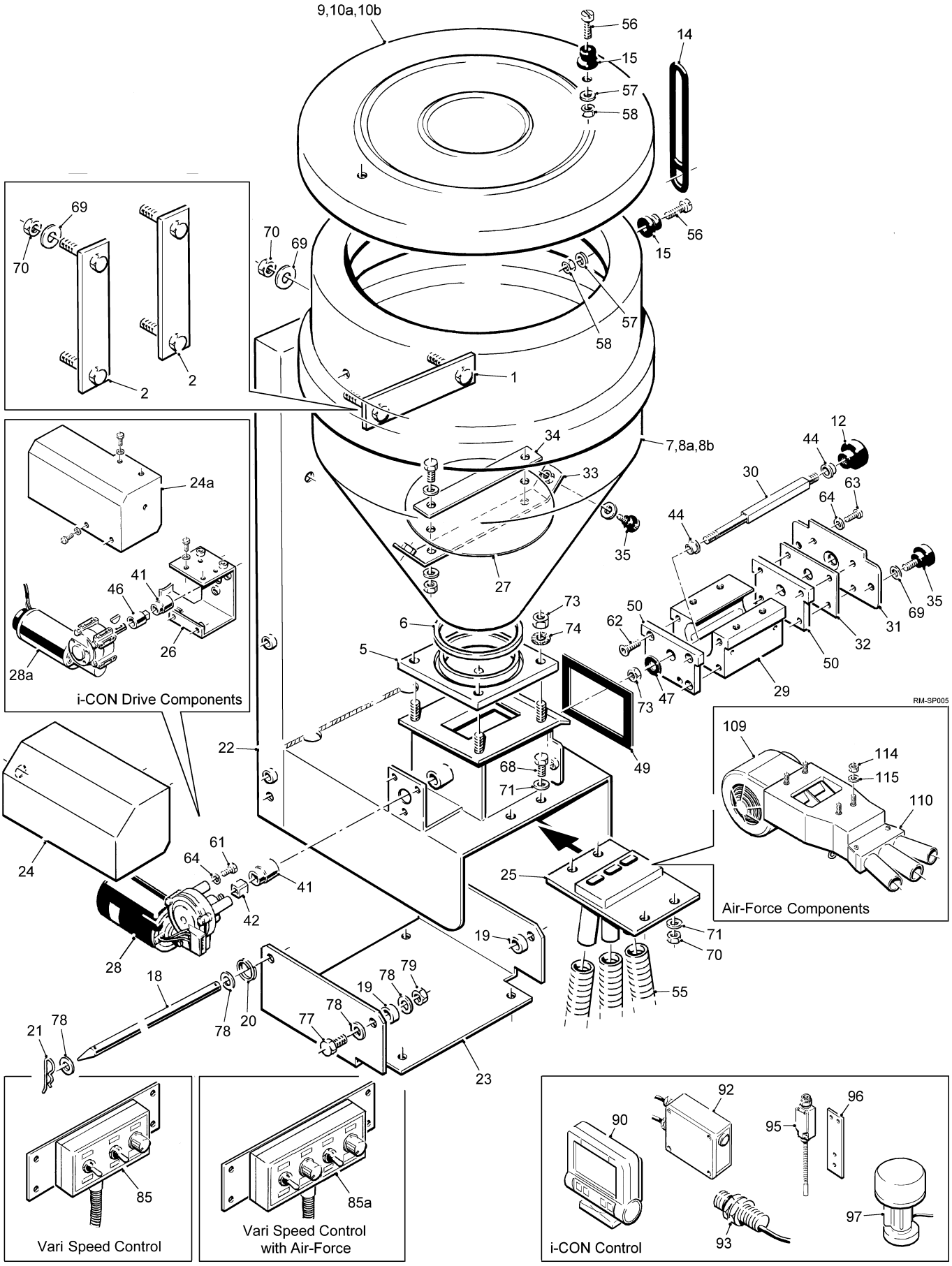
a. Be ready to time the test - switch on the feed rolls – start timing – stop the feed rolls after 1 minute.

b. Accurately weigh the product metered over the timed period and compare the weight collected to the figure indicated by the calibration chart at the end of manual. Increase or decrease the feed roll speed until you collect the correct amount of product for your rate, width and forward speed.

c. Use the cab control to select High or Low motor speed range on Vari-Speed machines or the High and Low switch located on the motor guard in combination with the motor speed dial to achieve the rate required in a 1 minute catch test.

NOTE: Be aware that the Fan Speed on the Air Force Model may effect quantity of material being metered depending upon the product being applied.

18.0 Rotor Meter Parts Drawing - All Models



18.1 Rotor Meter Parts List - All Models

Item	Part #	Description	Qty	Remarks
1	FJ003A-Ass.	Hopper Bracket	1	65L hopper
2	FJ003A-Ass.	Hopper Bracket	2	130L hopper
3				
4				
5	FJ017D	Hopper Base Plate	1	
6	FJ017S	Base Plate Seal	1	
7	FJ026A-Ass.	65 Litre Hopper	1	
8	FJ026B-Ass.	130 Litre Hopper	1	
9	FJ027A-Ass.	65 Litre Hopper Lid	2	
10	FJ027B-Ass.	130 Litre Hopper Lid	2	
11	FJ028A	3mm Allen Key	1	
12	FJ033A	M8 Female Knob	1	
13				
14	FJ103A-1	Rubber Tensioner	2	Qty x 3 on 130L
15	FJ104A-1	Bobbin	4	Qty x 6 on 130L
16	TJ131	4mm Allen Key	1	not shown
18	FJ415B	Tipping Pin	1	
19	FJ417A	Nylon Spacer	2	
20	FJ418A	Split Ring	1	
21	FJ419A	3mm "R" Pin	1	
22	GA200B	65L - 130L Chassis Weld Assembly	1	
23	GA069	Tipping Bracket	1	
24	GA055A	Motor Guard	1	
25	GA072-3A	3 Outlet Plate	1	Gravity machines only
25a	GA074A	1 Outlet Plate	-	not shown
27	GA017A	Hopper Baffle Plate Assembly	-	New one piece design
28	MM044C	Feed Motor	1	Vari-Speed Only
28a	TJ044B	Feed Motor	1	i-CON Only
29	GA108B	Feed Block	1	
30	GA113B	Feed Shaft	1	
31	FJ540B	Feed Block Mounting Plate	1	
32	FJ539A	Block Packer	1	
33	See item 27	Hopper Baffle Plate Assembly	-	No longer available
34	See item 27	Baffle Support Plate	-	No longer available
35	FJ032B	M8 x 15 Knob	2	
41	MM048	17mm Drive Socket	1	
42	MM049	Square Drive Block	1	
44	GA103	PVC Bush	2	
47	TJ033	Feed Block Gasket	1	
49	TJ040	Feed Block Seal	1	
50	GA109	Feed Block End Plate	2	
55	GA222	25mm ID Feed Hose	6m	3 Outlet gravity fed machine
55a	TJ222	32mm ID Feed Hose	2m	1 Outlet gravity fed machine
55a	TJ222	32mm ID Feed Hose	6m	3 Outlet Air Force machine
55b	GA223A	45mm ID Feed Hose	3m	1 Outlet Air Force machiine

18.2 Rotor Meter Parts List

Item	Part #	Description	Qty	Remarks
56	M5–012	M5 x 25 Slot Head CSK Screw	4	Qty x 6 on 130L
57	M5-014	M5 Flat Washer	4	Qty x 6 on 130L
58	M5-017	M5 Nyloc Nut	4	Qty x 6 on 130L
61	M6-005	M6x20 Hex Head Screw	3	
62	M6-007	M6x20 CSK Set Screw	4	
63	M6-008	M6x25 Button Head Set Screw	4	
64	M6-016	M6 Flat Washer	7	
68	M8-003	M8Hex Head Set	4	
69	M8-012	M8 Repair Washer	4	
70	M8-017	M8 Nyloc Nut	2	
71	M8-010	M8 Flat Washer	4	
73	M10-023	M10 Nut	4	
74	M10-026	M10 Star Washer	2	
77	M12-004	M12x35 Set Screw	2	
78	M12-008	M12 Flat Washer	6	
79	M12-014	M12 Nyloc Nut	2	
80	FJ110D	Air Force Control Box	1	Air Force models only
81	FJ107D	5m Fused power Cable	1	not shown
82	FJ108D	6m Connector Cable	1	not shown
83	FJ109D	Tail Piece	1	not shown
84	FJ055A	12v Toggle Switch	1	not shown
84a	FJ056C	Switch Cover	1	not shown
85	GA115B	Vari-Speed Control Box	1	Gravity feed models only
85a	FJ110D	Vari-Speed Control Box	1	Air Force models only
86	FJ110D	Air-Force Control Box	1	Air Force models only
87	MM107	3.5m Fused Power Cable	1	not shown
88	MM108	Connector Cable 6m	1	not shown
109	TJ120	12v Fan Unit	1	Air Force models only
110	GA080-3-LF	3 Outlet Air Chamber	1	Air Force models only
110a	GA080-1-LF	1 Outlet Air Chamber	1	Air Force models only (not shown)
114	M8-018	M8 Lock Nut	1	Air Force models only
115	M8-018	M Flat Washer	4	
116	TJ199	Stainless Steel Shim	2 6	
117	TJ200	5mm Small Seed Roll	11/15	
119	TJ207	3mm White Spacer	13	
120	TJ205	5mm Black Blanking Spacer	8 /12	
121	TJ211	6.5mm White Spacer	2	
122	GA110B-A	8 Section Feed Roller A	1	
122a	GA110B-B	8 Section Feed Roller B	1	
123	GA114	24mm Black End Spacer	2	
124	TJ204	13mm White Spacer	2	
125	TJ204A	28mm White Spacer	2	

Notes