



# ***StocksAG***

## **Rotor Meter - Jackal**

**ORIGINAL OPERATING MANUAL & PARTS LIST**



**Read carefully before installation and operation**

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**Stocks Ag Limited.**

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# TABLE OF CONTENTS

<b>Section</b>		<b>Page</b>
<b>1.0</b>	<b>General Information</b>	<b>5</b>
1.1	Technical Data	5
1.2	Intended Use	6
1.3	Unintended Use	6
1.4	Machine Identification	7
1.5	Warranty	7
<b>2.0</b>	<b>Safety</b>	<b>8</b>
2.0	Safety Continued	9
2.1	Safety Decals	10
<b>3.0</b>	<b>Emergency Stop Instructions</b>	<b>11</b>
<b>4.0</b>	<b>Storage</b>	<b>11</b>
<b>5.0</b>	<b>PVC Waterproof Covers</b>	<b>11</b>
<b>6.0</b>	<b>Disposal</b>	<b>12</b>
<b>7.0</b>	<b>General Maintenance</b>	<b>12</b>
7.1	Before use	12
7.2	Daily Checks	12
7.3	After Each Use	13
<b>8.0</b>	<b>Mounting Plate</b>	<b>14</b>
<b>9.0</b>	<b>Hopper Emptying Procedure</b>	<b>15</b>
9.1	Clearing a Blockage	15
<b>10.0</b>	<b>Machine Components</b>	<b>16</b>
10.1	Feed Motor	16
10.2	Main 12v Power Connection	16
10.3	Instrument Lead	16
10.4	Control System Operation	17
<b>11.0</b>	<b>Electrical Components</b>	<b>18</b>
11.1	Run Hold/Cut Out Switch – Optional	19

11.2	Hopper Level Sensor – Optional	19
11.3	GPS Speed Sensor Kit – Optional	20
<b>12.0</b>	<b>Initial Instrument Setup</b>	<b>22</b>
12.0	Initial Instrument Setup Continued	23
12.1	Run/Hold Automatic Switch	24
<b>13.0</b>	<b>First/New Product Calibration</b>	<b>25</b>
13.0	First/New Calibration continued	26
13.0	First/New Calibration continued	27
<b>14.0</b>	<b>Product Calibration</b>	<b>28</b>
<b>15.0</b>	<b>Applying Product</b>	<b>32</b>
<b>16.0</b>	<b>Simulated Speed</b>	<b>33</b>
<b>17.0</b>	<b>Alarms and Trip Functions</b>	<b>34</b>
<b>18.0</b>	<b>Quick Rate and Step Size Adjustment</b>	<b>35</b>
<b>19.0</b>	<b>Flush/Hopper Empty</b>	<b>36</b>
<b>20.0</b>	<b>Diagnostics</b>	<b>36</b>
<b>21.0</b>	<b>Ready for Work</b>	<b>37</b>
<b>22.0</b>	<b>Land Wheel Speed – Fly Lead Wiring</b>	<b>38</b>
<b>23.0</b>	<b>Jackal Control System – Drawing and Parts</b>	<b>39</b>
<b>24.0</b>	<b>Electrical Connections</b>	<b>40</b>
24.1	Control Boxes	40
24.2	Setting the Feed Rate	40
24.3	Feed Roller Configuration	41
<b>25.0</b>	<b>Feed Roller Combinations</b>	<b>42</b>
<b>26.0</b>	<b>Section Feed Roller Combinations</b>	<b>43</b>
<b>27.0</b>	<b>Rotor Meter Parts Drawing</b>	<b>44</b>
27.1	Rotor Meter Parts List – All Models	45
27.2	Rotor Meter Jackal – Parts List Continued	46

**E.C. DECLARATION OF CONFORMITY**

**Machine Type:** Mounted Agricultural Implement - Pellet and Seed application broadcasters

<b>Model(s):</b>	Fan Jet Pro	All Variants and Versions
	Fan Jet Plus	All Variants and Versions
	Fan Jet Mini	All Variants and Versions
	Fan Jet Duo	All Variants and Versions
	Maxi Jet	All Variants and Versions
	Turbo Jet	All Variants and Versions
	Rotor Meter	All Variants and Versions
	Rotor Jet	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 0SD  
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:

<b>BS EN ISO 12100:</b>	<b>2010</b>	Safety of machinery – General principles for design – Risk assessment and Risk reduction.
<b>BS EN ISO 4254-1:</b>	<b>2015</b>	Agricultural machinery – Safety - General requirements.
<b>BS EN ISO 4254-8:</b>	<b>2018</b>	Agricultural machinery. Safety - Solid fertiliser distributors.
<b>BS EN ISO 13854:</b>	<b>2019</b>	Safety of machinery – Minimum gaps to avoid crushing of parts of the human body.
<b>BS EN ISO 13857:</b>	<b>2019</b>	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:** 06<sup>th</sup> 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: 01<sup>st</sup> 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 publication but may be subject to change. This manual is correct at the time of printing but Stocks Ag 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 103 cm  
Boxed 51 x 58 x 94 cm

**Operating voltage:** 12v

**Motor output:** 60 watts

**Noise level:** 60 dB

**Power Requirement:** 10 amps

**130-litre machine:**

**Net weight:** 40 kg

**Dimensions:** WxDxH 61 x 60 x 123 cm  
Boxed: 62 x 62 x 114 cm

## **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. This also includes compliance with the conditions for operation, maintenance and repairs prescribed within this operating 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 and 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



On this 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 control system is modified in any way, this will void any warranty claim.

Stocks Ag cannot be held responsible for any claims or injuries to the owner or any third parties while in the operation of Stocks Ag equipment.

On no account can Stocks Ag be held liable for accidental or consequential damages (including loss on anticipated profits) for any impairment due to failure or defect of the machine.

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 60dB.**

### 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 it functions correctly.

## **2.0 Safety Continued**

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 unattended.**

## 2.1 Safety Decals



**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

**In the case of an emergency always switch off the main power switch on the control panel and isolate the power supply immediately by disconnecting the power cable.**

1. Power down the control system immediately by switching the main power switch to the middle setting marked "O" on the cab mounted control panel.
2. Disconnect the power supply by unplugging the power cable or removing the fuse.

"POWER OFF" SWITCH  
POSITION



## 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 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.

Fit the PVC waterproof cover (if available).

Ensure feed blocks are free to turn and all electrical cables checked following periods of storage.

## 5.0 PVC Waterproof Covers

Heavy-duty white PVC covers fitted with eyelets and bungee 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 and any toxic residue have been removed and put back into a sealed container or disposed of following the manufacturer's 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 regard 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 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 hopper is clean, dry and free of foreign objects.
2. Ensure feed outlets and all hoses are clear of product.

## 7.3 After Each Use

1. Empty the hopper and clean the machine thoroughly.
2. Disconnect the power supply.
3. Replace the PVC waterproof cover (if applicable).
4. 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. Ensure this 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.

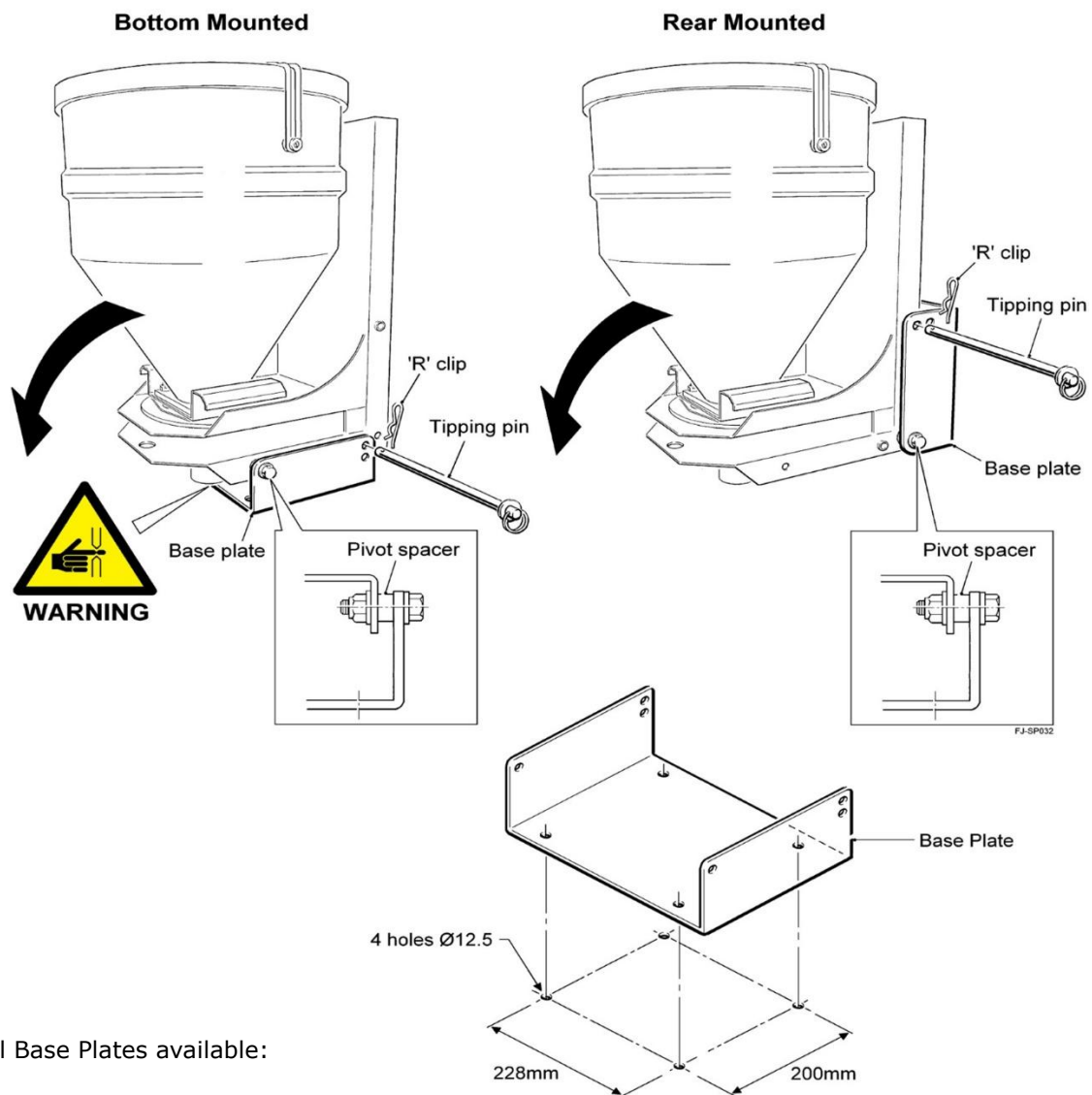
**Gravity fed machines:** Mount the base plate at the rear of the machines to allow room for feed hoses.

**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 accidentally 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.

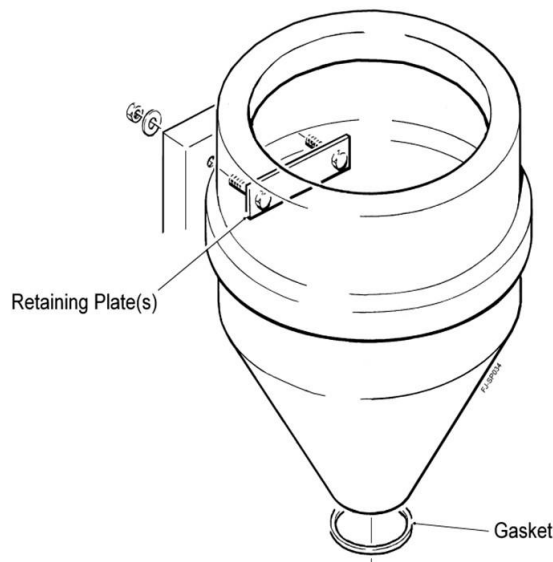
**Ensure appropriate personal protection equipment is worn for the product being applied.**

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 hopper 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 and any toxic residue have been 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 either the tractor 7 pin implement socket, or 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 Main 12v Power Connection

The power for the gravity fed Rotor Meter is supplied via a 3 pin COBO type 3, D plug. The 3 pin COBO D plug sockets are commonly fitted into tractor cabs.

### 10.3 Instrument Lead

The 6m instrument lead connects the applicator to the control box of the Rotor Meter.

**NOTE:** Extension instrument cable available, if required.

Please contact your local Stocks Ag dealer for more information.

**Ensure the multi-pin connector on the instrument cables are connected the correct way around, as shown.**



## 10.4 Control System Operation



### 1. Power On/Off button

Power is turned on by pressing the **ON/OFF** button for 1 second.

Power is turned off by holding the **ON/OFF** button for 2 seconds.

### 2. Run/Hold button

The **RUN/HOLD** button has a dual function.

Press **RUN/HOLD** once to place the 'Metering unit ON HOLD'.

Press **RUN/HOLD** again to resume operation.

The **RUN/HOLD** state is indicated in the top left-hand corner of the screen. When the metering unit is in **RUN** mode, the unit displays **RUN** to signify that the metering unit is active (turning).

When the metering unit is in **HOLD** mode the unit displays the word "**HOLD**" & "beeps" every 2 seconds.

### 3. Page button

The **PAGE** button is used to scroll through function screens.

### 4. Select buttons

The Jackal has 3 buttons placed directly under the LCD. These buttons will change function in different menus.

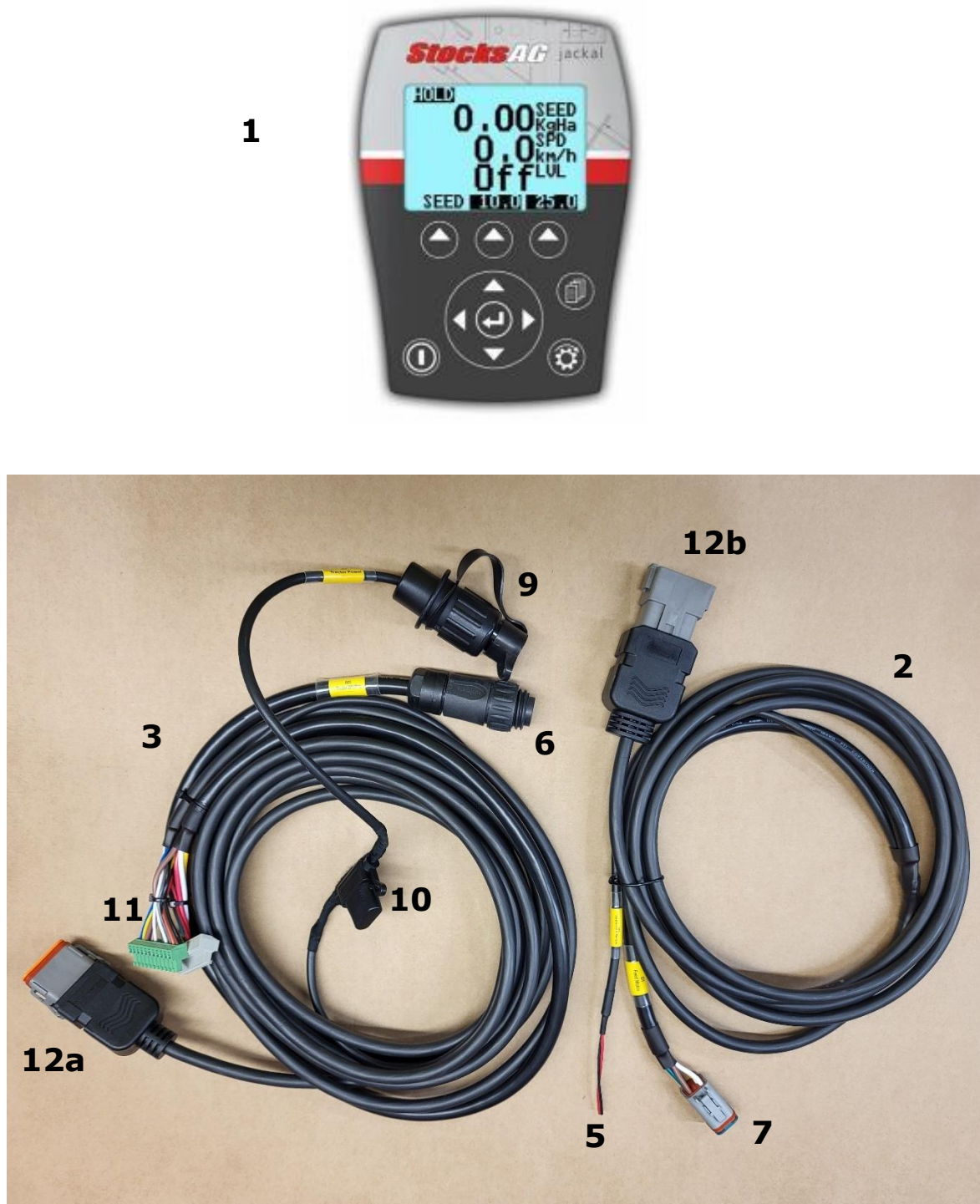
The function of the button is indicated at the bottom of the screen directly above the button.

### 5. Navigation button (Up, Down, Left, Right, Enter)

The round navigation (**NAV**) buttons are used to navigate **UP/DOWN/LEFT/RIGHT** in calibration screens as well as scrolling through the display lines on the main screen.

**ENTER** is used to select the option highlighted onscreen.

## 11.0 Electrical Components



- |   |   |
|---|---|
| 1. Cab control panel                            | 7. Feed motor connection                  |
| 2. Machine Loom                                 | 8. 6m control extension cable (not shown) |
| 3. Control panel cable                          | 9. 12v power (3 pin type 3 COBO D Plug)   |
| 4. GPS sensor connection - Optional (not shown) | 10. 10amp fuse                            |
| 5. Cut out switch connection - Optional         | 11. Control box plugs                     |
| 6. 7 pin tractor plug                           | 12. a & b Cable connector plug and socket |

## 11.1 Run Hold/Cut Out Switch – Optional

This optional switch can be mounted in a suitable place on the implement or linkage on the tractor. Deflecting the spring, and automatically switching the feed motor off or on accordingly, as the circuit is made or broken.



**Part No: 47TJT50025**

Position the optional 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 and the feed motor is normally off. If required the switch can work in the opposite mode by changing the setting on the head unit, see manual page 24 (section 12.1).

## 11.2 Hopper Level Sensor – Optional

There is an optional hopper level sensor available. This option is useful when the hopper of the applicator is out of view of the operator. The alarm will sound once the product in hopper drops below the level of the sensor.

**For more information please contact your local Stocks Ag dealer.**



**Hopper level sensor - Part No: 47TJT5037**

### 11.3 GPS Speed Sensor Kit – Optional

When a tractor's 7 pin implement socket is not available for a forward speed signal, the Jackal can be fitted with this optional GPS sensor kit. This will give speed proportionate metering of product whilst maintaining the pre-set application rate in line with changes in forward speed. The fly lead is required to connect the GPS receiver to the plug on the back of the head unit.

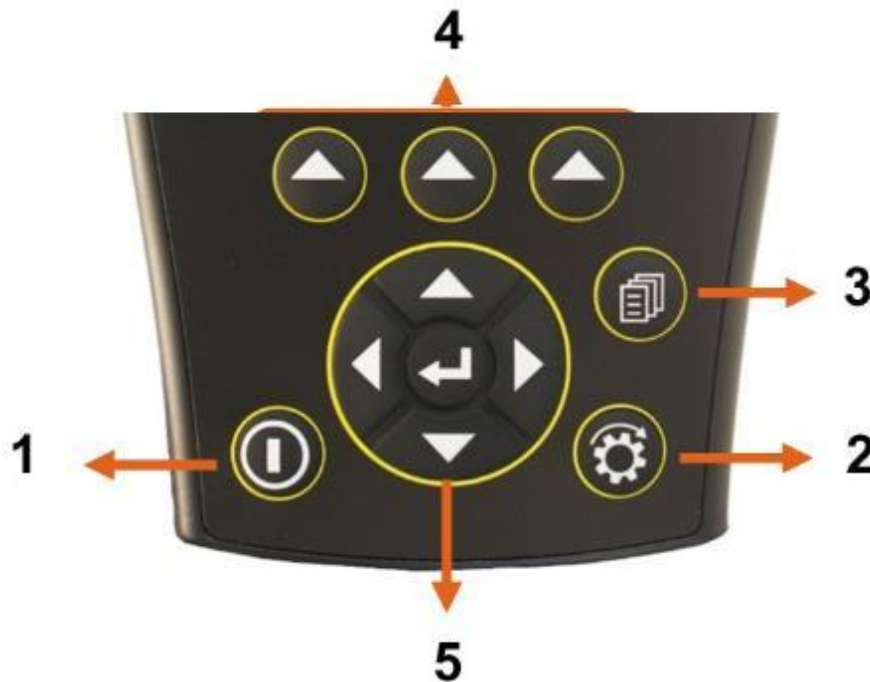


**GPS receiver - Part No: 47TJT5036**



**GPS fly lead - Part No: 97APC0048**

## 11.4 Instrument Button Functions



### 1. Power On/Off button

Power is turned on by pressing the **ON/OFF** button for 1 second.

Power is turned off by holding the **ON/OFF** button for 2 seconds.

### 2. Run/Hold button

The **RUN/HOLD** button has a dual function.

Press **RUN/HOLD** once to place the 'Metering unit ON HOLD'.

Press **RUN/HOLD** again to resume operation.

The **RUN/HOLD** state is indicated in the top left-hand corner of the screen. When the metering unit is in **RUN** mode, the unit displays **RUN** to signify that the metering unit is active (turning).

When the metering unit is in **HOLD** mode the unit displays the word "**HOLD**" & "**BEEPS**" every 2 seconds.

### 3. Page button

The **PAGE** button is used to scroll through function screens.

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The Jackal has 3 buttons placed directly under the LCD. These buttons will change function in different menus.

The function of the button is indicated at the bottom of the screen directly above the button.

### 5. Navigation button (Up, Down, Left, Right, Enter)

The round navigation (**NAV**) buttons are used to navigate **UP/DOWN/LEFT/RIGHT** in calibration screens as well as scrolling through the display lines on the main screen.

**ENTER** is used to select the option highlighted onscreen.



## 12.0 Initial Instrument Setup

This display is called the **RUN** screen and displays the information required when the machine is in normal use.

It displays on a scrolling list:

**Application Rate**

**Forward Speed**

**Hopper Level sensor**

**SCROLL DOWN TO VIEW**

**Fan Current (as a % of battery voltage)**

**Area Meter**

### Setting the Working Width

Using the **PAGE** button scroll through until the **SETUP** option displays over the select buttons.

Press the SELECT button to enter the SETUP Menu.

Using the DOWN Arrow on the Navigation key pad, scroll down to **Other Settings**.

Using either the ENTER button on the Navigation key pad or the right hand **SELECT** button, with SELECT above it, to confirm.



## 12.0 Initial Instrument Setup Continued

Using the navigation keys, scroll down to implement width.

Press the left navigation button to highlight the numerical value to be adjusted.

Press **EDIT**.

On the next screen enter the working width in metres.

To adjust the value, use the navigation up and down buttons to change the value.

Use the left and right buttons to select to the unit to be adjusted.

The example across shows a working width of 8.5 metres being entered.

Press **EXIT** to save and go back to settings menu.





## 12.1 Run/Hold Automatic Switch

The Jackal has 3 main methods of switching the metering roller on and off. On is referred to as **Run** to apply product and off is referred to as **Hold** to stop the metering roller.

The **Run** or **Hold** button on the bottom right of the control box can be used to manually switch the metering motor on and off.

When using an implement attached to the 3 point linkage, the 7 pin implement socket in the cab can be used to provide an on/off signal for the **Run/Hold** function.

To use the 7 pin input as the **Run/Hold** function, the **Input#** must change from 5 to be set to **9**.

**Note: This input may require changing, please contact Stocks for technical assistance to unlock this function.**

There is also an optional cut out finger switch available.

This is set from factory to be in the **Hold** position when not activated (in its central rest position) and when the finger is moved, the metering motor will start or **Run**.

The set up for this function is displayed in **SET UP/Other Settings**, scroll down to **Extern.Run/Hold**

This will be shown on the screen as **Normally Off**

If required, the operation of the **Run/Hold** can be made to operate the opposite way round to suit a particular tractor or position of the optional finger switch.

Finger switch and 7 pin implement switch setting:

In **Set Up, Other Settings, Extern.Run.Hold**.

By changing the setting to **Normally On**, the machine will meter product with the **Run/Hold** finger switch in the rest position and then switch off when the **Run/Hold** finger switch is moved.



## 13.0 First/New Product Calibration

From the front screen, select **SETUP**, by pressing the arrow directly below.



Then select **Inputs** by pressing **SELECT** or the Enter button in the middle of the navigation keys.



## 13.0 First/New Calibration continued

**Important! – On the first ever calibration run or when changing product types. Leave the target set to 0.000kg, do not enter a target weight.**

To prime, first release the calibration door on the bottom of the machine and place the calibration tray underneath.

Press and hold the arrow button below **START** on the Jackal Instrument or the button on the applicator junction box.

Once product is dispensed, release the button. The screen will AUTO RESET for the calibration run.

To start calibration, press and hold the arrow button under the word **START** on the screen.



## 13.0 First/New Calibration continued

Weigh the product dispensed with scales that weigh in grams or kgs to 3 decimal places.

The TARGET line will now read **Actual**.

With **Actual** highlighted. Press the arrow key below **EDIT** and enter the weight of product dispensed.



A new screen opens to allow you to enter the weight of product dispensed.

Example: If you weighed 256 grams, you need to enter this as 0.256kg on the screen.

Using the left and right navigation key pad to highlight the figure that needs adjusting, use the up and down to change the figure.

To save and exit, press the arrow below **EXIT**.

**DEL** is to delete a digit and **INS** is to insert a digit.



To confirm the actual weight that has been entered, now press **CALC** to work out the new ratio.

**Note:** This ratio is the number of pulses from the encoder on the metering motor per kg of product.

For reference, the calculated ratio can be recorded along with the product type and feed roller set. This ratio can be entered manually to quickly change between products in the future.

Scroll down to highlight Manual Ratio press **EDIT** and enter the recorded figure.

To save and exit, press **EXIT**.



# 14.0 Product Calibration

From the front screen, to select **SETUP** press the arrow directly below.



Then select **Inputs** by pressing **SELECT** or the Enter button in the middle of the navigation keys.



Once the first calibration run has been completed and calculated, the manual ratio will change.

A target rate can now be entered.

Using the Navigation keys, scroll down to highlight **Target**.

Press the arrow key below **EDIT**.



## 14.0 Product Calibration continued

This is the weight you want to dispense during your calibration. This is usually 0.100kg (100 grams) up to around 0.800kg (800 grams).

Example: Set to 300 grams or 0.300 kg.



To prime, first release the calibration door on the bottom of the machine and place the calibration tray underneath.

Press and hold the arrow button below **START** on the Jackal Instrument or the button on the applicator junction box. Once the product is dispensed, release the button. The screen will auto reset for the calibration run.

To **START** the calibration, you can either press and hold the arrow button under **START** or press and hold the button on the side of the applicator junction box.

The calibration run will stop when the target rate is reached or when the button is released.



## 14.0 Product Calibration continued

Weigh the product dispensed with scales that weigh in grams or kgs to 3 decimal places.

The TARGET line will now read **Actual** with **Actual** highlighted. Press the arrow key below **EDIT** and enter the weight of product dispensed.



Example: If you weighed 256 grams, you need to enter this as 0.256kg on the screen.

To save and exit, press the arrow below **EXIT**.





## 14.0 Product Calibration continued

To confirm the actual weight that has been entered, now press **CALC** to work out the new ratio.

**Note:** This ratio is the number of pulses from the encoder on the metering motor per kg or product.

For reference, the calculated ratio can be written down along with the product type and feed roller set. This ratio can be entered manually to quickly change between products in the future.

Scroll down to highlight **Manual Ratio** press **EDIT** and enter the recorded figure.

To save and exit, press **EXIT**.





## 15.0 Applying Product

For the machine to operate, the **RUN/HOLD** in the top left of the screen, must display **RUN**.

This is either switched by the linkage position switch/sensor. (This is either on the 7 pin plug or external finger switch, if supplied).

Alternatively, if there is no 7 pin input or external finger switch, the **RUN/HOLD** button on the bottom right of the keypad can be used to switch the metering unit on and off.

As the machine is about to start work, set the application rate required. This can be done by selecting one of the two preset “**quick rate**” buttons, as highlighted opposite.

*See Quick Rate section to adjust the preset rates.*

Until the machine is moving, **STOP RATE** will be displayed in the top right of the screen.



Alternatively, the rate can be set manually on the **RATE+** or **RATE-** page.

Once the machine starts to move, the forward speed will be displayed and the **STOP** message will change to **OK**.

***The applicator should now be applying product.***



## 16.0 Simulated Speed

Simulated speed is used when no forward speed input is available, or if you need to run the machine while stationary for testing.

If simulated speed is switched on, it will override any external speed input.

Select the Other Settings page by selecting **SETUP** then **Other Settings**, scroll down to **SimulSpeed**.

The simulated speed can be switched on or off by highlighting **YES** or **NO** and pressing the arrow key below **EDIT** or the Enter Button.

To return to the Run/Home screen press **EXIT** to save and **EXIT** each screen.

When simulated speed is turned on, this function is now available when scrolling through the screen functions using the **PAGE** button.

The simulated speed function must be switched off to allow an external forward speed input to alter the application rate as the tractors speed changes.

The speed can be adjusted on the move and the feed rate will adjust accordingly.



# 17.0 Alarms and Trip Functions

## ALARMS

The Alarms page is accessed from the home screen, using the left hand select arrow.

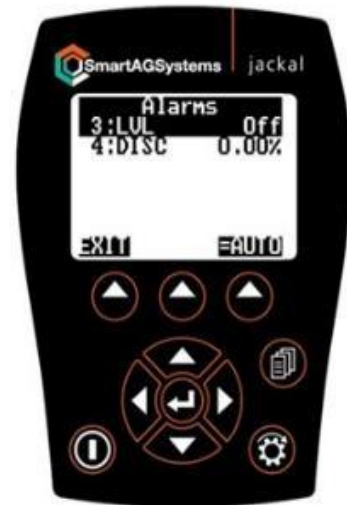
The Alarms are listed and show which alarms are active.

The alarm function should be set to AUTO.

**=AUTO:** As soon as the value moves back within the min and max range the monitor will automatically reset the alarm.

**=ON:** When the alarm is activated it will remain ON until you enter the ALARM menu and manually reset.

**=OFF:** You can disable the alarm altogether.



## TRIPS

The Trips page allows accumulating area (hectare) values to be saved and recalled at a later time.

From the front-page press **TRIP**, the screen opposite allows you to SAVE/RESET individual trips or view SAVED TRIPS.

By pressing the **SAVE/RESET** you have the ability to Reset Trip | Save Trip | Reset All.

By pressing **2. Save Trip** it will be stored in the SAVED TRIPS option.

You can now view the **SAVED TRIPS**. You also have the ability to **EDIT** and name the Trip or **DEL ALL** (Delete All Trips).

**When you return to the TRIPS page the Trip will continue to accumulate.**

**You will need to SAVE/RESET the trip if you want to start from Zero (0) again**



## 18.0 Quick Rate and Step Size Adjustment

The preset quick rates can be set to whatever is required.

From the front screen settings, the size of the step rate can be adjusted.

To get to the Front Screen, use the page button until SETUP is displayed. Select SETUP, then scroll down to Front Screen and select.

When the Front screen is displayed, as opposite, select **1: SEED** by highlighting and press **EDIT**.



Scroll down until **Step:** is visible.

```

Front Screen 1
Mode: Rate
Input# :1
Name: SEED
Unit: KgHa
Decimals: 2
Step : 0.50
EXIT
    
```

To adjust the Step size, scroll down to highlight **Step**.

Press **EDIT** and set the required **Step** size in kg/ha (screen opposite shows steps of 0.50 kg/ha).

Press **EXIT** to save and exit.

0.50000 is a 500 grams or 0.5 kg step size.

```

Front Screen 1
Mode: Rate
Input# :1
Name: SEED
Unit: KgHa
Decimals: 2
Step : 0.50
EXIT EDIT
    
```

To adjust **RateA** and/or **RateB**, scroll down and highlight the one to be altered. Then press **EDIT**.

Enter the required rate and press **EXIT** to save and exit.

```

Front Screen 1
Name: SEED
Unit: KgHa
Decimals: 2
Step : 0.50
RateA : 15.00
RateB : 40.00
EXIT EDIT
    
```

## 19.0 Flush/Hopper Empty

The Jackal has a Flush or Hopper Empty function.

Use the Page button to scroll through the function until **SEED** and **Flush** are displayed above the arrow buttons.

Open the calibration door and place a suitable bucket or container underneath.

To begin emptying, press the arrow button under Flush.

The Flush icon will begin to flash and the metering unit turns.

Press again to stop.



## 20.0 Diagnostics

The Diagnostics page is accessed from the **SETUP** page and scroll down to Diagnostics.

This page will display supply voltage and current being drawn.

Each input and output set up on the Jackal is displayed. When switched on or operated it will show a voltage or hertz reading.



## 21.0 Ready for Work


**Once calibrated your machine is ready for work**

1. Remove the calibration tray and store away safely.
2. Re-fit and secure the calibration cover on the bottom of the outlet manifold.
3. Check all outlet pipes are seeding correctly.
4. Ensure that you are travelling at the correct chosen speed if not using the optional GPS Kit.
5. Stop after a few metres – check for even distribution, spread and application rate.
6. Commence work checking periodically to ensure the machine is working correctly.

**If you are unable to calibrate correctly or you have any other questions about the machine please contact us.**

**CAUTION.** The feed rolls and agitator can pull in hair or loose clothing. The motor is so powerful that you will be unable to stop it.

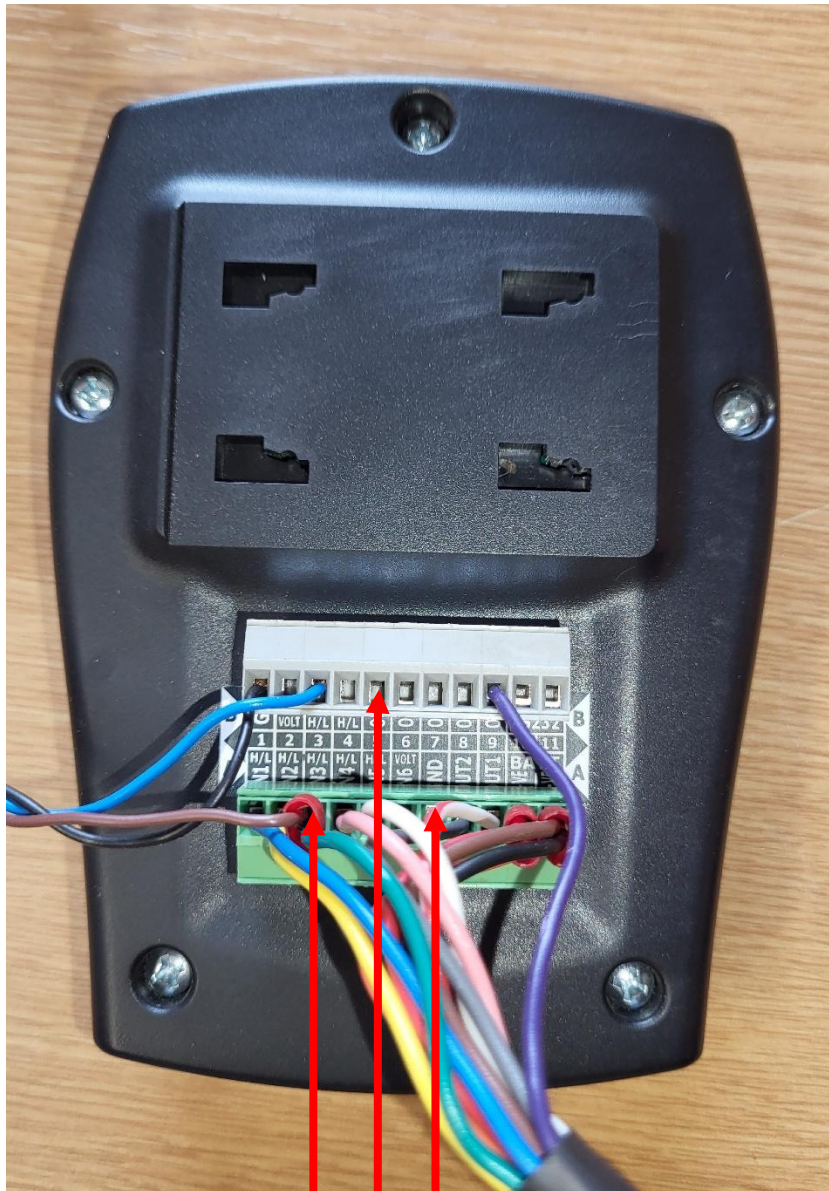
**Always clean out the machine at the end of the day, use a brush not your hand to sweep out the hopper.**

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

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



## 22.0 Land Wheel Speed – Fly Lead Wiring



### Wheel Speed Sensor wire connections

**YELLOW / GREEN = Signal (Green 3)**

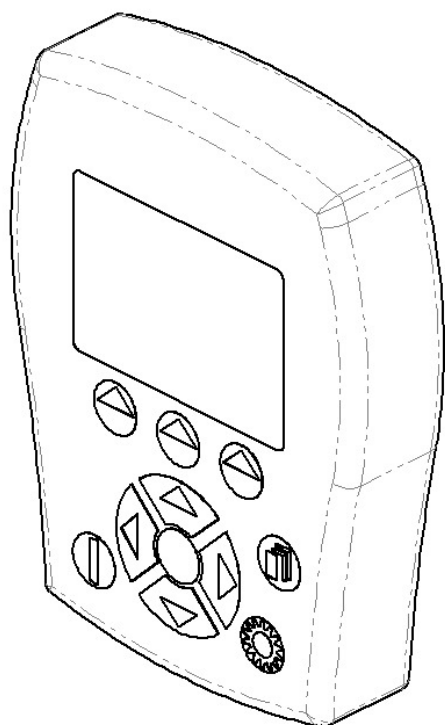
**BLUE = GROUND (Green 7)**

**BROWN = +12V (Grey 5)**

The wires in Green 3 will need removing to allow the wheel speed sensor wire to fit.

**Warning! Do not over tighten the terminal screws in the grey and green plugs.**

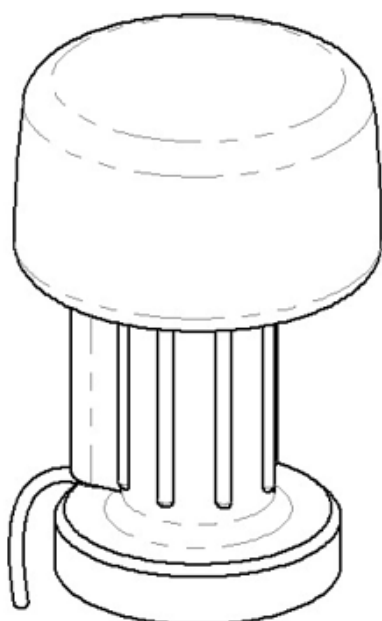
## 23.0 Jackal Control System – Drawing and Parts



**Jackal Control Box**  
**Part number: 97APC0046**

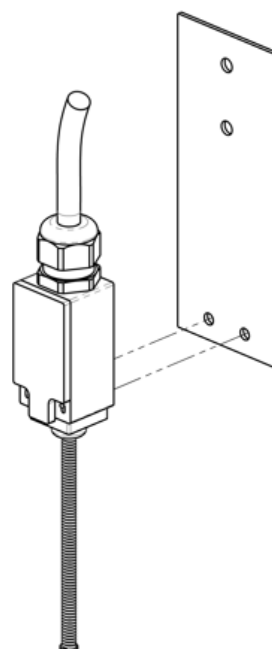


**Jackal Basic Wiring Loom**  
**Part Number: 97APC0047**



**GPS Receiver**  
**Part number: TJ255B**

**5m Fused Power Cable**



**Finger Switch (Cut Out/Run Hold)**

**Part number: TJ252**

**TJ253 Finger Switch Mounting Plate**

**TJ254 Finger Switch Cable**

**5m Instrument Cable**



## 24.0 Electrical Connections

Power requirement is 12 volts with a minimum continuous 15 amp supply for a gravity fed machine.

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

The power for the Rotor Meter Jackal is supplied via a 3pin type 3 COBO D plug.

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.

### 24.1 Control Boxes

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

### 24.2 Setting the Feed Rate

The feed rate is adjusted by the feed motor speed and by fitting different feed roller combinations. Each combination gives different feed rates of material per revolution. Refer to the Product Calibration pages 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.

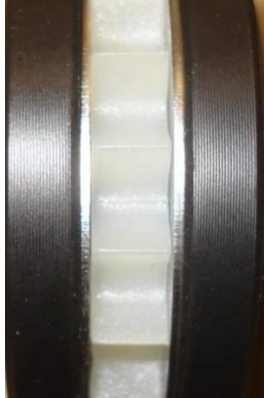
## 24.3 Feed Roller Configuration

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 be 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 are 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.

**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.

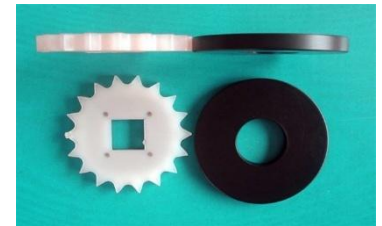
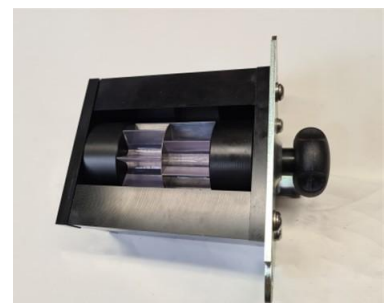


Photo below showing a feed block assembly with 6 feed 5mm rollers and 5 blanking spacers fitted.



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



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.

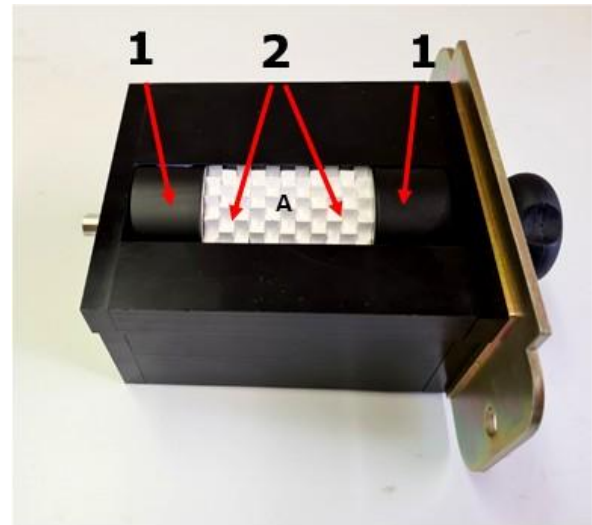
**NOTE:** You should be able to rotate the feed shaft with your fingers – if it feels excessively tight, check the feed roller and spacer composition or call Stocks Ag for advice.

**⚠ 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.

## 25.0 Feed Roller Combinations

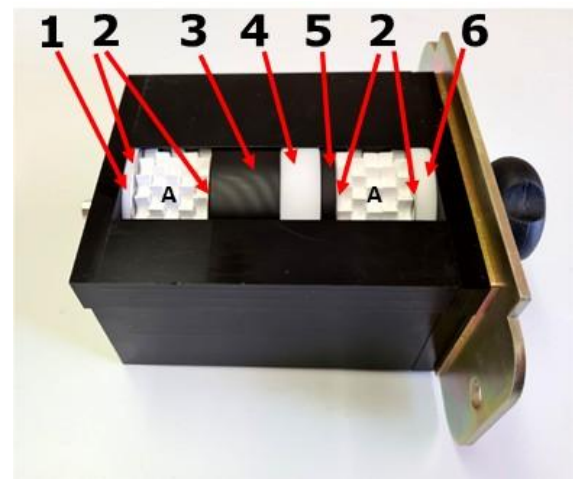
### Feed rollers and spacer arrangement for single outlet machines

1. 24mm Black Spacer - GA114 (x2)
2. Stainless Shim Washer - TJ199 (x2)
- A. 5mm Feed Rollers - TJ200 (11)



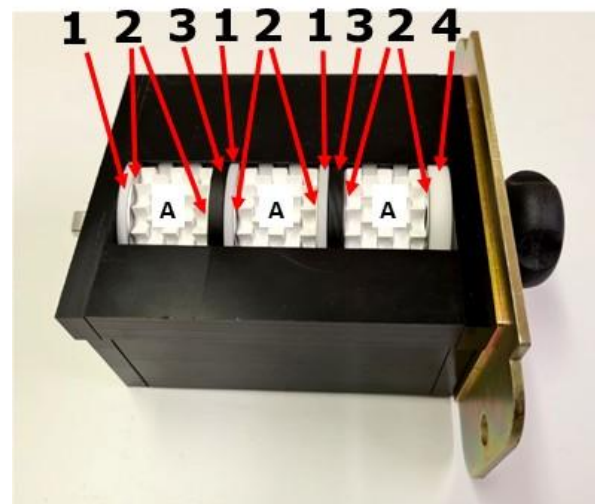
### Feed rollers and spacer arrangement for 3 outlet machines and 2 outlet operation

1. 3mm White Spacer - TJ207
2. Stainless Shim Washer - TJ199 (x4)
3. 24mm Black Spacer - GA114
4. 13mm White Spacer - TJ204
5. 5mm Black Spacer - TJ205
6. 6.5mm White Spacer - TJ211
- A. 5mm Feed Rollers - TJ200 (x10)



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

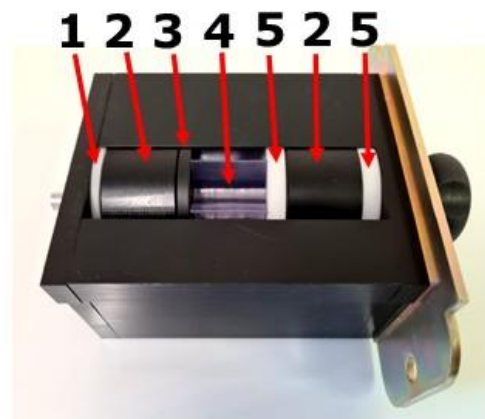
1. 3mm White Spacer - TJ207 (x3)
2. Stainless Shim Washer - TJ199 (x6)
3. 5mm Black Spacer - TJ205 (x2)
4. 6.5mm White Spacer - TJ211
- A. 5mm Feed Rollers. (x15)



## 26.0 Section Feed Roller Combinations

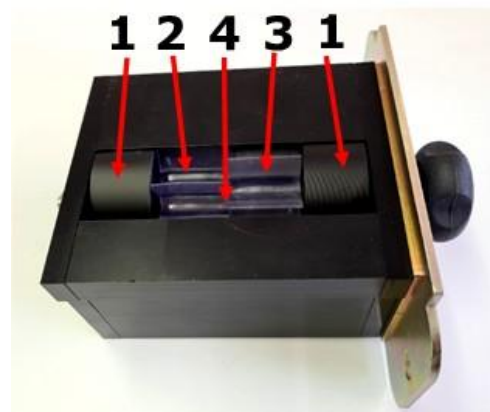
### Feed roller and spacer arrangement for 1 outlet machines fitted with 1 feed roller

1. 3mm White Spacer
2. 28mm Spacer
3. 5mm Black Spacer
4. 8 Section Feed Roller "A" GA110B or "B" GA110B-B
5. 6.5mm White Spacer



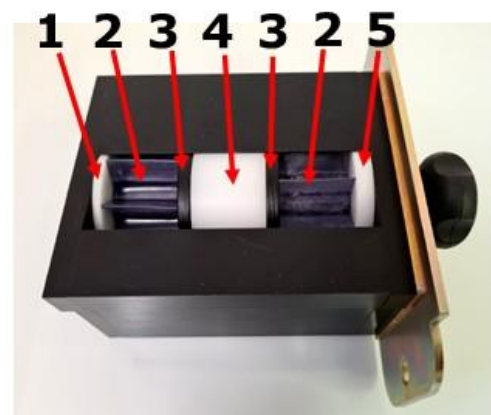
### Feed rollers and spacer arrangement for 1 outlet machines fitted with 2 feed rollers

1. 24mm Black Spacer - GA114
2. 8 Section Feed Roller "A" GA110B-A
3. 8 Section Feed Roller "B" GA110B-B
4. Stainless Steel Shim - J119



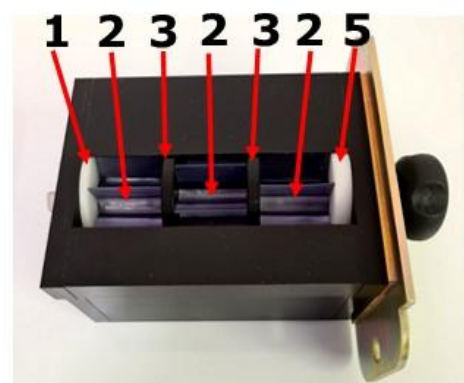
### Feed roller and spacer arrangement for 3 outlet machines for 2 outlet operation

1. 3mm White Spacer - TJ207
2. 8 Section Feed Roller - "A" & "B" (x1 of each) GA110B
3. 5mm Black Spacer - TJ205
4. 28mm White Spacer - TJ204
5. 6.5mm White Spacer - TJ211



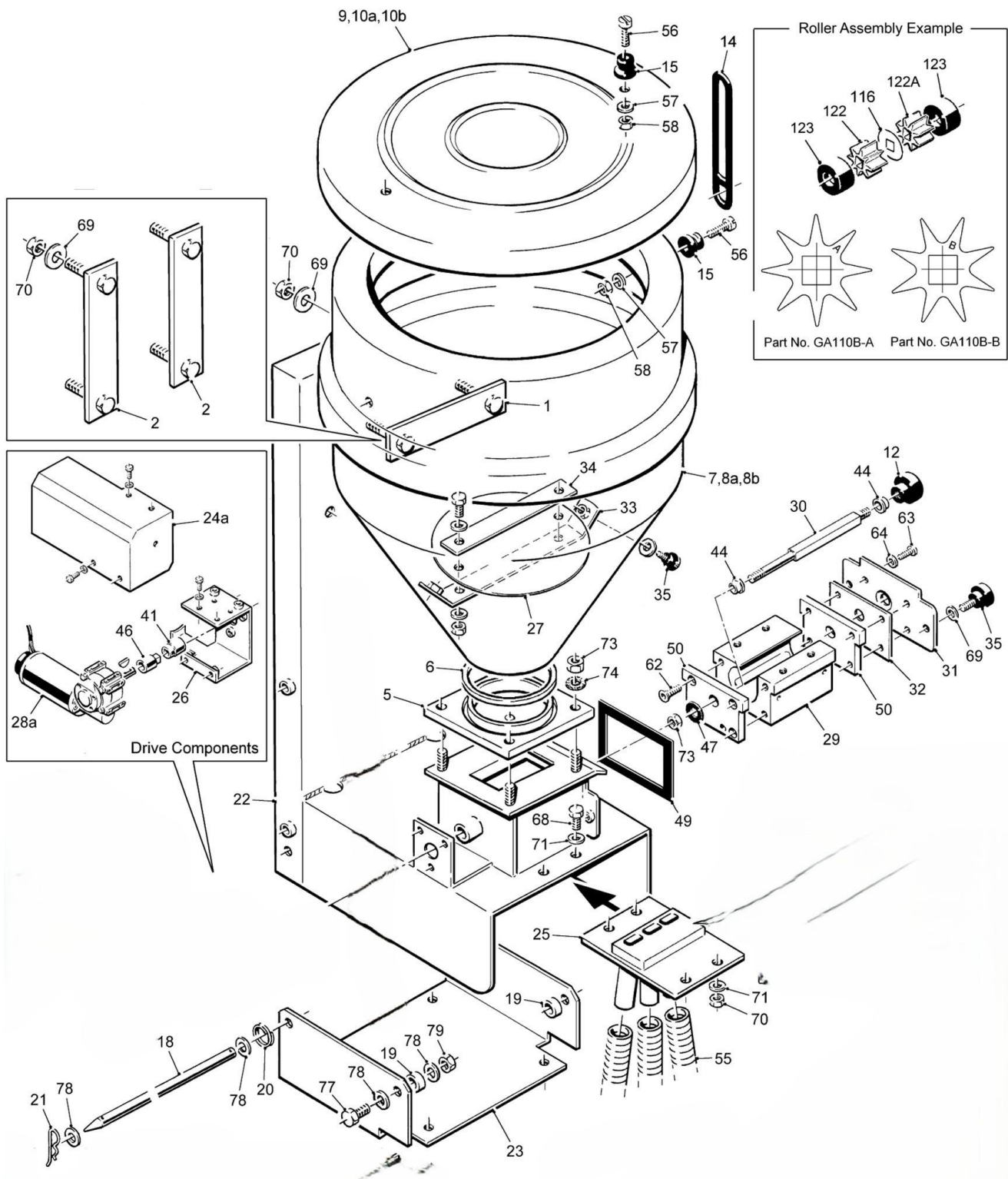
### Feed roller and spacer arrangement for 3 outlet machines for 3 outlet operation

1. 3mm White Spacer - TJ207
2. 8 Section Feed Roller GA110B-A & GA110B-B (alternate)
3. 5mm Black Spacer - TJ205
5. 6.5mm White Spacer - TJ211





# 27.0 Rotor Meter Parts Drawing



## 27.1 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
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	
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
28a	TJ044B	Feed Motor	1	
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

**27.2 Rotor Meter Jackal – Parts List Continued**

<b>Item</b>	<b>Part #</b>	<b>Description</b>	<b>Qty</b>	<b>Remarks</b>
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	M8 Hex 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	
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
87	MM107	3.5m Fused Power Cable	1	not shown
88	MM108	Connector Cable 6m	1	not shown
115	M8-018	M Flat Washer	4	
116	TJ199	Stainless Steel Shim	2 to 6	
117	TJ200	5mm Small Seed Roll	11 to 15	
119	TJ207	3mm White Spacer	13	
120	TJ205	5mm Black Blanking Spacer	8 to 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

[illegible]