

StocksAG

Turbo Jet 8 & 10 VS-2

ORIGINAL OPERATING MANUAL & PARTS LIST



Read carefully before installation and operation

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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

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
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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 Turbo Jet 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 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: Turbo Jet 8 VS-2 and Turbo Jet 10 VS-2

Power requirement 30 amps

Hopper capacity: 240 litre or 400 litre.

Motor output 360 watt

Max. spreading width 24m

Noise level: 70dB

Rec. working width TJ 8: 8m, TJ 10: 3- 10m
(Depending on Application)

Power consumption of the motor: 35 amps when starting, up to 30 amps during normal operation

Operating voltage: 12v

240 litre machine:

Net weight: 90kg with spreader kit 120kg

Dimensions: 66 x 100 x 116cm

400 litre machine:

Net weight: 95kg with spreader kit 130kg

Dimensions: 66 x 100 x 143cm

1.2 Intended Use

This Turbo Jet has been designed solely to apply small seed and granular products for use in the agricultural, horticulture and the amenity sector.

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 and also includes compliance with the conditions for operation, maintenance, and repairs prescribed within this instruction manual.

NOTE: Do not use 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 non-intended use.

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 unattended.

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

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.



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 - Optional

240L Waterproof PVC Cover Part No. TJ240COVER

400L Waterproof PVC Cover Part No. TJ400COVER

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 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

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! 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.

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.

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

7.1 Before Use

1. Ensure the machine is securely mounted.
2. Check the power supply and ensure the power cable is connected direct to the vehicle battery.
3. Check the feed block is configured correctly and free running before starting work.

7.2 Daily Checks

1. Check the feed motor and agitator motors are working correctly.
2. Check the 12v Fan and air intake meshes are clean and free from any debris.
3. Check feed hoses for any blockages and all hose clips are tight.
4. Check the spreader plates are positioned correctly.

7.3 After Each Use

1. Empty 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 Installation Guide

The Turbo Jet can be used for a wide variety of seeding applications in conjunction with a wide variety of parent implements.

It is not practical to supply tailored mounting brackets for every implement on the market, and so the final attachment of the Turbo Jet to the implement is the responsibility of the supplying dealer or end user.

The positioning of the hopper, the spreader plate, the "C" section mounting rails will depend upon the type and design of parent implement, here are a few basic pointers to ensure the Turbo Jet performs correctly.

Position the Turbo Jet high enough above the implement to facilitate routing of the flexible tubes, to the spreader plates, without severe bends or uphill runs. Try to route all tubes generally downhill. Do not block the air intakes to the fans under the base plate.

If mounting on a folding implement, ensure the wing sections do not foul the hopper and all hose runs are long enough to fold with the implement.

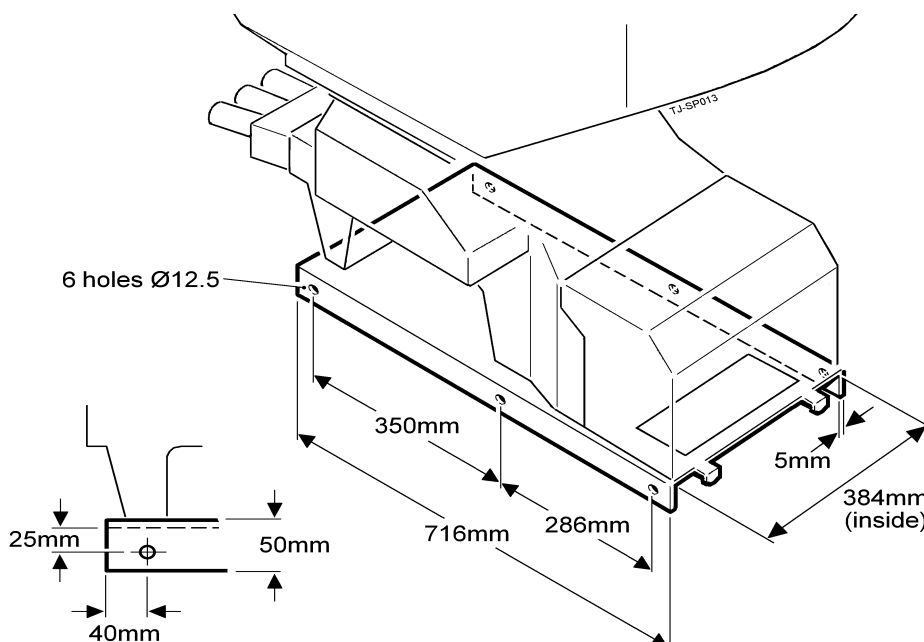
Ensure you can access the hopper to fill, and are able to remove the feed block assembly and position the calibration tray underneath to calibrate or empty.

Ensure there is room to undo the fan housing catches and lift the housing to clean the fans. When filling, emptying or calibrating the Turbo Jet ensure you work safely. If necessary fabricate and fit a work platform and steps, complete with handrails. The hopper may face forwards or backwards, whichever offers the easiest mounting and best flexible hose run. Select a strong, rigid position and use the heavy flat base plate provided to weld or bolt to your implement as per the below example.



8.1 Base Plate

Part No. TJ422 Dimensions and fixing hole detail.



8.2 Spreader Plates

The machines have 8 or 10 outlet tubes, feed hoses can be split with the black "Y" connectors provided, to give 16 or 20 spreader plates. Depending on the implement width and if you require a broadcast or band sown effect, use as many outlets as required, with or without the spreaders.

Plan the positioning of the pipes/spreader plates to be equal distant across the width of your implement. If using the black plastic "Y" connectors ensure they are fitted above the spreader plate using as short a run of flexible hose to the plates a possible, whilst still providing a smooth flow and of being equal length. It is recommended that a straight 30cm section of pipe is utilised prior to the "Y" connector to ensure an even split of product.

Flexible hoses from these connectors then runs to the outlet pipes on the Turbo Jet. Aim to route all these hoses smoothly and generally downhill from the hopper to the spreader plate, avoiding severe bends and uphill runs.

8.3 C Section Rail

The spreader plates themselves are mounted to the "C" section rails, 4 x 2m lengths per machine are supplied. These can be cut down to suit the implement width. The "C" section rails can be attached to the implement using the supplied straight brackets, two per rail, which can be welded or bolted into position.

The spreader plates slide along the rails to give the planned spacing, and lock into position using the integral bolts. It is generally better to position the spreader plates facing to the rear of the implement as this can prevent wet mud or tilth being thrown up into the mouth of the spreader causing blockages, especially if positioned close behind the tractor wheels, roller, or discs.

8.4 Feed Hose

A 30m coil of flexible feed hose is supplied with each Turbo Jet (with extra hose available if required). This requires cutting into lengths according to the positioning of the hopper and spreader. Ensure all hose runs are as short as possible whilst giving a smooth downhill route to the spreader plates. Avoid kinks, severe bends or uphill runs. Plan and measure the individual hose runs before cutting, fit the hose clips to the Y connector tails.



9.0 Machine Components

9.1 Feed Motor

The feed motor can be turned ON or OFF, either manually via the head unit, or automatically by fitting the optional remote mounted spring type 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.

9.2 Hopper Agitator

The internal agitator is powered independently by a separate motor. Its purpose is to prevent seed becoming compacted in the hopper and bridging (not flowing). It is recommend for all grass and grass seed mixes, or other seed that may bridge in the hopper, but it is not required for free flowing seeds such as OSR, clover, stubble turnips or similar, or granular products. The agitator ON OFF switch is mounted on the side of the machine.

NOTE: If using the agitator in the field, also use it when calibrating.

9.3 12v Fan Unit

The double 12v fan unit is housed under the hinged meshed cover designed for easy access, and air is drawn through the mesh intakes on the rear, front, and sides of the cover, and underside the mounting base plate. This hinged cover can be lifted for cleaning purposes.

The Fan ON OFF switch is mounted on the side of the machine.

NOTE: Turn the fan **OFF** when calibrating, and **ON** once calibrated and ready for work.

9.4 Main Power Cable

The heavy duty power cable should connect directly to the vehicle battery posts to ensure adequate 12v supply to the fans which is fitted with a 40 amp fuse to protect the control system. This cable should reach to the back of the tractor in turn this is connected to the 5m heavy duty power extension cable which then connects to the power input flylead on the machine.

9.5 Instrument Lead

The 6m instrument lead connects to the junction box of the Turbo Jet, 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.

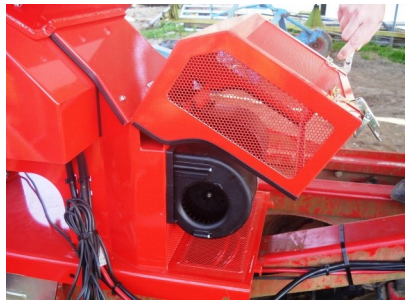
10.0 Inspection

10.1 12v Fan Inspection

⚠ WARNING! Always isolate the power before inspecting or servicing the machine.

To inspect the fan unit undo the two over-centre catches and hinge up the guard as shown below. Use an air line and brush to clean the fan blades regularly to maintain performance and prevent eccentric running. Always check the fan air intakes are clean and free from debris.

NOTE: The 12v fan has a self detection feature which shuts the fan off if it is out of balance.



10.2 Feed Block Assembly Inspection

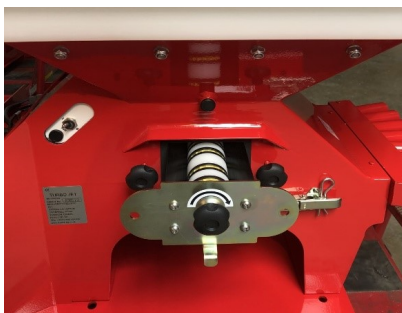
⚠ WARNING! Always observe all application standards and guidelines provided by the product manufacturer as some seed dressings and granular products may be toxic!

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

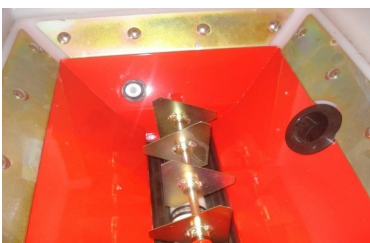
1. Empty the hopper completely to prevent spillage, release the two over-centre catches and drop the hinged panel under the feed rolls and position the plastic collection tray directly underneath to catch any remaining seed or product.
2. Undo and remove the 2 black plastic knobs holding the mechanism in place and slide out the feed block assembly.

Be aware that the feed block assembly may retain some seed product.

3. Use an air line and brush to clean the feed block and internal components checking for any wear or damage replacing any worn or damaged parts as necessary. When doing this wear appropriate PPE.
4. Before re-fitting the feed block ensure that the feed shaft can easily be turned by hand using the black PVC knob fitted to the end of the shaft. If difficult to turn remove the end cap at the opposite end of the feed block assembly and remove all spacers and feed rollers by sliding each one off the shaft.
5. Check the drive shaft engages correctly when sliding the feed block back into the machine by slowly rotating the central black plastic knob before re-fitting the outer black plastic retaining knobs.



10.3 Agitator Shaft Inspection



Check the internal agitator shaft to ensure it is clear of any debris and free to rotate.



11.0 Hopper Emptying Procedure



The hopper drain cap can be removed to help empty the hopper.

Any remaining product is best removed by using an industrial vacuum before the feed block is removed from the machine.

Once the feed block has been removed from the machine dispose of any remaining product held in the feed block.

Release the bottom calibration door and check the air chambers for any sign of debris or build up of product and clear as necessary.

12.0 Clearing A Feed Hose Blockage

In the unlikely event of a blockage, remove the hose and clear any obstruction and from within the hose or manifold on the machine. Remove the feed block and check the air chamber below the feed block opening and clear any debris. Re-position the feed hoses if this has been the cause of the problem.

13.0 Checking The Feed Motor

⚠ WARNING! This procedure must be carried out by a competent person who is aware of any risks involved.



Firstly empty the hopper then remove the feed block assembly.

Remove the motor guard by releasing the fixing screws.

Check to see if the feed motor shaft rotates when pressing the prime button.

If the shaft is not rotating this may indicate the motor is faulty or has been damaged and needs to be replaced.

For any parts or if no faults found and the alarm persists contact your local Stocks Ag dealer.

14.0 VS-2 Control System

14.1 VS-2 Overview

This VS-2 control system is designed to provide a simple method of metering product into the airflow of the machine and provide basic system monitoring of functions in the way of audio and visual alarms.

The machine can be operated without the optional GPS Speed Sensor Kit fitted but the machine will be set at a fixed output and will **NOT** provide speed proportionate metering. Feed rate accuracy then being dependant upon a fixed forward speed being maintained.

For speed proportionate metering of product for accuracy and economy, the optional GPS Speed Sensor kit must be fitted.

This GPS receiver is simple to fit (magnetic attachment) and is not affected by the angle of fitting and requires no in-field calibration. Once fitted and the application rate has been decided and calibrated, the VS-2 will monitor the forward speed of the vehicle via the speed sensor and balance the speed of the feed motor to the forward speed, ensuring that the metering is proportionate to any forward speed changes in the field.

A simple static "catch and weigh" calibration test is completed prior to any field work to set the application rate for a chosen target field speed.

NOTE: The system remembers the feed motor speed setting once calibrated.

Once this static catch and weigh test is done, application rates can be manually nudged up or down whilst in work by using a combination of the 3 position feed motor switch and speed dial settings.

NOTE: Each of the 36 motor speed settings available change the motor speed by approximately 1.54 rpm and so rates can be adjusted accordingly.

If the feed motor speed setting is changed during operation an alarm will remind you that you are no longer working at the calibrated setting until the original setting is resumed.

The control system will also sound an alarm to remind you when the motor is switched off at headland, for example, the feed motor speed cannot be maintained, the fans are not working, or the hopper contents are low when the optional hopper level sensor has been fitted.

14.2 VS-2 Control System Options

1. Feed Cut Out Switch - this can be mounted in 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.

2. GPS Speed Sensor Kit - to avoid any over applying of product this offers speed proportionate metering of product, maintaining the pre-set application rate in line with forward speed changes. If the system is then not able to maintain the rate it will alarm and alert the operator.

3. Hopper Level Sensor - alarms to warn the operator if the hopper contents are getting low.

Please contact your local Stocks Ag dealer for more details.

14.3 Control System Operation



14.4 Cab Control Panel

A) Left Hand Toggle Switch.

Feed Motor **ON** ("I") Lower position, **OFF** ("O") Middle position, **Calibration** - forward speed ("C") Upper position).

B) Middle Toggle Switch.

Main Power **ON** ("I") Lower position, **OFF** ("O") Upper position.

Power remains connected (in standby mode with slow pulsed LED) until main power cables are disconnected.

NOTE The forward speed calibration memory will be lost if this happens, and will need resetting.

The system can be left connected for long periods with no significant current draw.

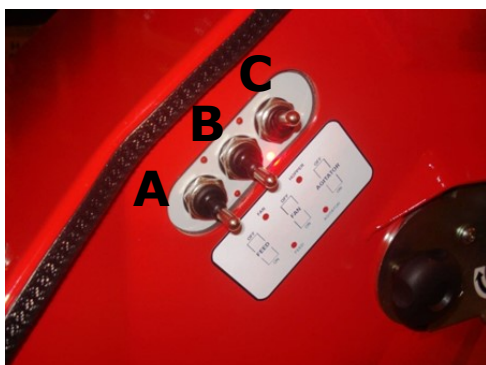
C) Right Hand Toggle Switch.

High, Medium, and Low speed ranges for the feed motor to determine the application range - determined by the calibration later in this section.

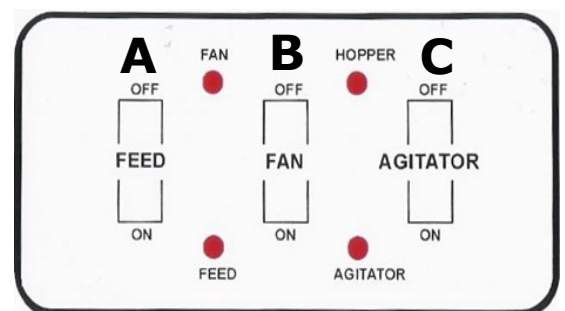
D) Feed Motor Speed Dial - Fine speed range adjustment dial (1-12).

14.5 Machine Junction Box

This box has 3 toggle switches are used to turn on and off the following motors.



- A. Feed motor**
- B. Fan motor**
- C. Agitator motor**

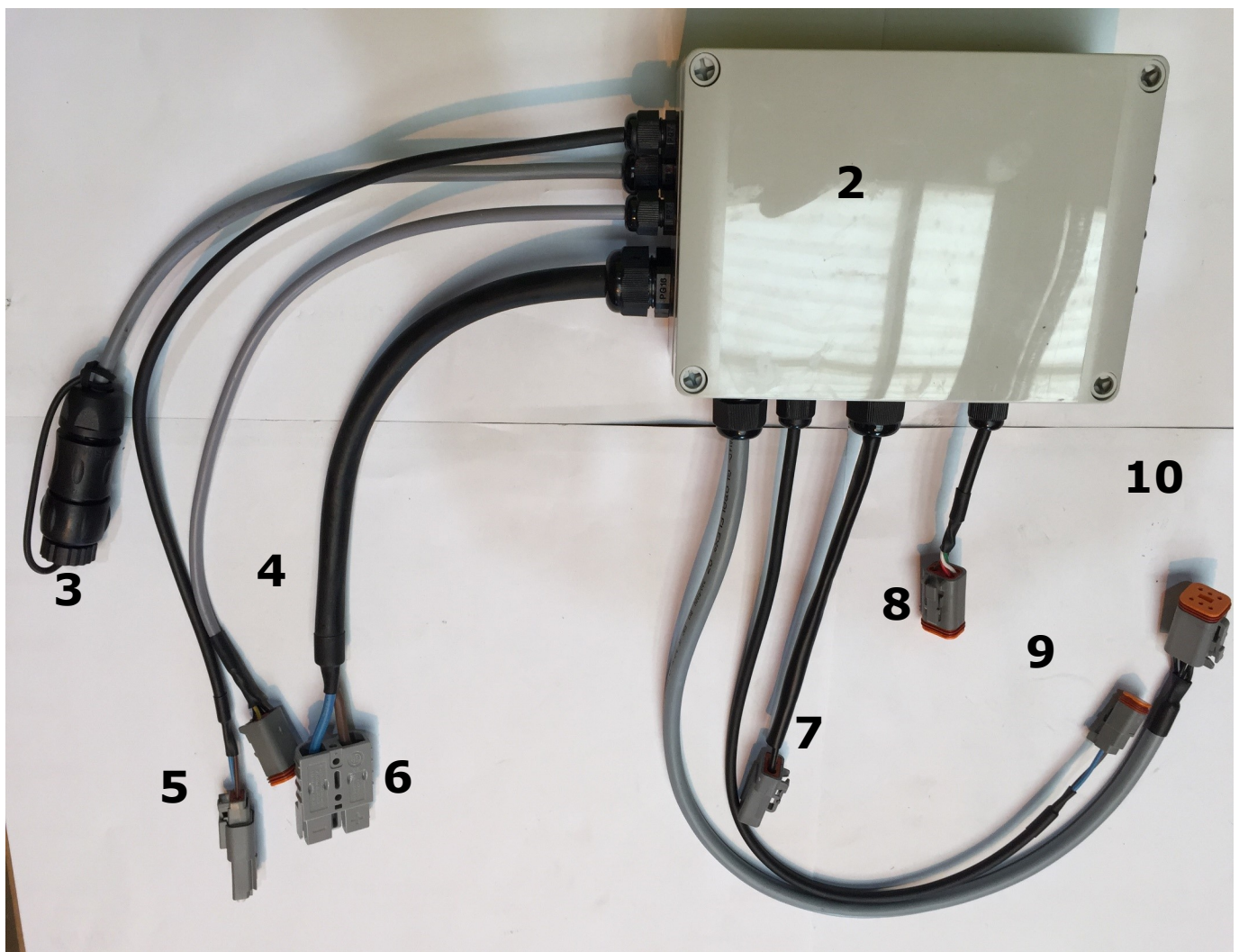


Use these switches when calibrating the machine to isolate the fan, and control the feed motor during the catch and weigh test.

NOTE: Select the agitator for use with grass seeds or other product that requires agitation.

The **LED lights illuminate** when the switches are in the OFF position or there are any problems or issues with the fan unit, feed motor or agitator motor and if a hopper contents have fallen below the hopper level sensor (if fitted).

15.0 Electrical Components



- | | |
|-----------------------------------|--|
| 1. Cab control panel | 8. Hopper level sensor connection |
| 2. Junction box (machine mounted) | 9. Agitator motor connection |
| 3. Control cable connection | 10. Feed motor connection |
| 4. GPS sensor connection | 11. 6m Control extension cable (not shown) |
| 5. Cut out switch connection | 12. 5m Fused power cable (not shown) |
| 6. Power cable connection | 13. 5m Power cable extension (not shown) |
| 7. 12v Fan connection | |

15.1 Cut Out Switch/Spring Finger Switch



Part No: TJ-004-C/OUT-KIT

This optional switch can be mounted in 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.

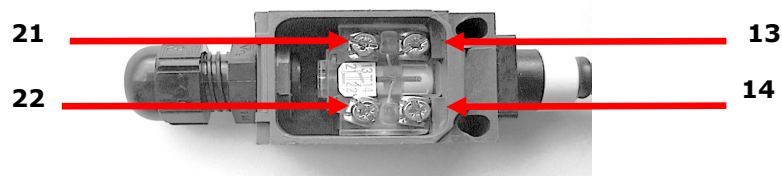
NOTE: The feed motor must be switched ON at the control panel for the spring finger switch to work automatically.

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, 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.



15.2 Hopper Level Sensor - Optional

This optional hopper level sensor is available which is usually factory fitted but can be retro-fitted if required.

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.



Part No: TJ-004-HLS-KIT

Recommended if the hopper is not in full view of the operator

NOTE: This unit plugs into the machine junction box and fits into a pre-drilled position in the hopper.

15.3 GPS Speed Sensor Kit - Optional



Part No. TJ-004-GPS-KIT

For best results and to avoid over applying product we recommend the machine is fitted with this optional GPS sensor kit as this will give speed proportionate metering of product whilst maintaining the pre-set application rate in line with forward speed changes.

If the system is not able to maintain the rate, it will alarm and alert the operator.

NOTE: This GPS kit must be used, as the control system is not designed to work with the signal generated from a standard GPS receiver or Ground Speed Radar

16.0 Feed Motor Settings & Speeds (RPM)

LOW RANGE Settings 1 - 12		MID RANGE Settings 13 -24		HIGH RANGE Settings 25-36	
Dial setting	Speed RPM	Dial setting	Speed RPM	Dial setting	Speed RPM
1	6	1 (13)	24.48	1 (25)	42.96
2	7.54	2 (14)	26.02	2 (26)	44.5
3	9.08	3 (15)	27.56	3 (27)	46.04
4	10.62	4 (16)	29.1	4 (28)	47.58
5	12.16	5 (17)	30.64	5 (29)	49.12
6	13.7	6 (18)	32.18	6 (30)	50.66
7	15.24	7 (19)	33.72	7 (31)	52.2
8	16.78	8 (20)	35.26	8 (32)	53.74
9	18.32	9 (21)	36.8	9 (33)	55.28
10	19.86	10 (22)	38.34	10 (34)	56.82
11	21.4	11 (23)	39.88	11 (35)	58.36
12	22.94	12 (24)	41.42	12 (36)	59.9

16.1 Before You Start

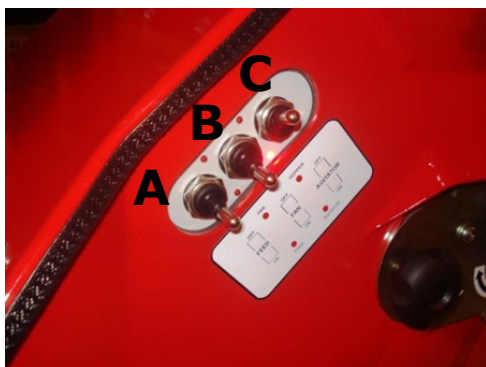
To carry out the calibration procedure you will need the plastic calibration tray supplied, a timer, and an accurate set of scales to weight the product.

NOTE: Ensure the correct configuration and type of feed rollers are fitted for the product being applied.

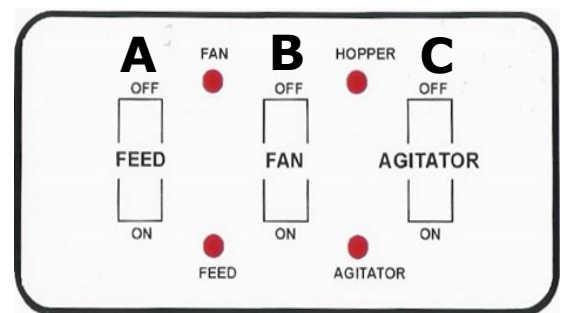
⚠ WARNING! Always observe all application standards and guidelines provided by the product manufacturer as some seed dressings and granular products may be toxic.

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

When performing the first calibration with a new seed or product, set the range to MID, and the Dial to 6 to set the feed motor to half speed – from this result you will see if the motor needs to be faster or slower, from this point you can then select, HIGH or MID range, depending upon results, **NOTE:** LOW range is not recommended.



- A. Feed motor
- B. Fan motor
- C. Agitator motor



16.2 Calculate What You Need

Use the following formula for all products and where possible always use the estimated in field speed in the equation and when in the field. This will establish how much product will need to be collected in the calibration tray during a 1 minute catch test.

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

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.

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

Example 2.

The required application rate is 5.5 kilograms per hectare. The target forward speed is 12 kilometres per hour. The bout width is 4 metres wide.

$$\frac{5.5 \text{ (kgs/ha)} \times 12 \text{ (kph)} \times 4 \text{ (m)}}{600} = 0.44 \text{ kgs per min}$$

NOTE: The minimum motor speed is approximately 6 RPM and the maximum is approximately 60 RPM. Each of the 36 speed settings changes are approximately 1.54 RPM. The output should be approximately proportionate to feed roll speed. If you find you need to collect twice the amount of seed in the catch test, consult the chart below and select a speed setting to give approximately twice the feed roll speed RPM and repeat the catch test until the correct amount is collected to give the required application rate for your width and forward speed.

16.3 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.

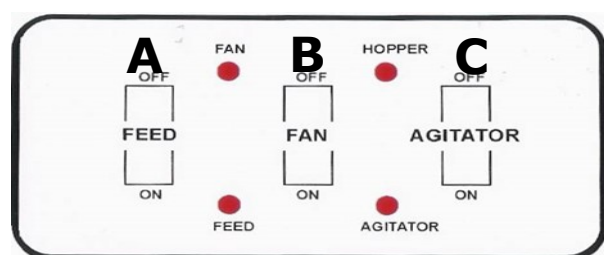
3. Perform the catch and weigh test.

a. Be ready to time the test - switch on the feed rolls (A) – 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. Larger adjustment can be made by altering segments on the feed roller assembly.

c. Use the cab control to select High, Medium or Low motor speed range on the machine in combination with the motor speed dial to achieve the rate required in a 1 minute catch test.

NOTE: If calibrating a high volume low density product like grass, it is likely that a 1 minute catch and weigh test will deliver too much product for the tray to hold. If this is the case use the same formula and halve the results for a 30 second test or quarter them for a 15 second test.



16.4 VS-2 Calibration Procedure

NOTE: When calibrating for a new application rate, or a new forward field speed, disconnect the main power cable to the Turbo Jet for at least 10 seconds. This cancels the memory of previous calibrations and re-sets the system, to allow new settings to be used.

16.5 Ready For Work

Once calibrated your machine is ready for work

1. Remove the calibration tray and store away safely.
2. Close the hinged drop down panel and secure with the over centre catches.
3. Ensure the fan is running by switching the junction box fan switch to **ON**.
4. Ensure the feed motor is running by switching junction box motor switch to **ON**.
5. Ensure the agitator is running if required.
6. Check all outlet pipes are seeding correctly.
7. Ensure that you are travelling at the correct chosen speed if not using the optional GPS Kit.
8. Stop after a few metres – check for even distribution, spread and application rate.
9. Commence work checking periodically to ensure the machine is working correctly.
10. Application rates can be changed whilst on the move by increasing or decreasing the feed motor speed using the dial on the cab control panel.

⚠ 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.

If fitted with the optional GPS Kit your machine will operate at varying forward speeds maintaining your calibrated application rate.

If no GPS kit fitted the system can still operate at the calibrated rate but will not be speed related – if the forward speed is maintained at the speed used for the catch and weigh test – the rate will be correct

If the feed motor cannot achieve the required speed to apply the rate, an alarm will sound and a red LED will light at the machine junction box.

Turn the feed ON and OFF as required using the left hand toggle switch from mid to low position. If for any reason the system has not calibrated correctly (whilst holding this switch up) the alarm will sound and all the LED lights will flash indicating an error.

In the unlikely event that your machine has not calibrated correctly switch off the electrics and conduct a check of all wiring and ensure all connections are good - and then re-calibrate.

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

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.

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

16.6 GPS Installation Guidelines

The GPS is best mounted with an unobstructed hemispheric view of sky, to ensure that GPS satellites are not masked by parts of the machine or parent vehicle. Mount as far away from any equipment that may cause electromagnetic interference as possible. Securing the cable close to the antenna using cable ties so that in the event of it being knocked from its mounting point it will be restrained and minimise any potential damage.

16.7 GPS Calibration

NOTE: Do not connect GPS receiver until the machine has been calibrated.

The speed calibration is done in the field, at the same speed used in the application rate calculation.

1. GPS must be recalibrated after every calibration change.
2. Disconnect the power cable before connecting GPS receiver.
3. Plug in optional GPS sensor.
4. Reconnect power cable.
5. Check green power solid light on sat speed box and solid red GPS light.
6. Drive at calibrated speed.
7. Hold 1st spring loaded cab switch upwards until beep then green light stays solid.
8. The GPS should now be calibrated

NOTE: If you drive too fast 3rd red light will flash and beep. If you drive too slow red light will flash and beep.

Top of PCB—LED 11 should be solid green.

Below LED status should flash green when working with speed signal.

Should flash red without speed plugged in.

Flash green/red when speed plugged in but no speed.



⚠ WARNING! Be aware of the rotating feed shaft which is powerful and can cause injury. Do not put your hands inside the hopper when the agitator motor is turning as the shaft rotates at high speed and is sharp and dangerous.

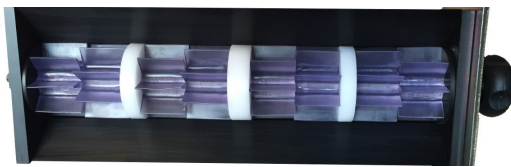
17.0 Feed Block Assembly Guide

⚠ WARNING! Moving parts of this machine are powerful and can cause injury. Be especially careful whilst performing calibration tests.

⚠ 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.

17.1 Feed Roller Configuration



When supplied from the factory unless specified the machine will be fitted with 8 section feed rollers for grass seed, grass mixes and some cover crops applications. Normally one feed roller per outlet required as fitted for grass seed application and typically applied at 35kg/ha over a 6m working width.

For lower outputs requirements for example when applying over a 3m working width or to apply some cover crops then the number of feed rollers can be reduced - see Feed Roller section showing how the feed rollers and spacers need to be assembled.

In addition the machine is supplied with a second feed roller kit for lower rate applications such as small seed and slug pellet applications as shown below.

Yellow feed rollers are typically used for small seed application such as OSR with 1 feed roller fitted over each outlet as shown below. If higher rates are required the **white** feed rollers can be used.

NOTE: Yellow feed rollers apply approx. 40% less than the white rollers - Product dependant.

If you cannot achieve the required rate using just a single yellow or white roll, then use multiple rolls together per outlet for example 2 or 3, you can also mix the yellow and white provided each outlet has the same configuration of feed rolls. Other components from this kit which include 16 white feed rollers and 3 black 5mm blanking spacers will be found in a bag packed inside the hopper.

⚠ WARNING! It is the responsibility of the operator to ensure the feed block assembly is suitable for the product being applied.

NOTE: before applying very fine seeds or product please contact your local dealer or Stocks Ag direct to ensure the machine is suitable. Failure to do so could invalidate your warranty.

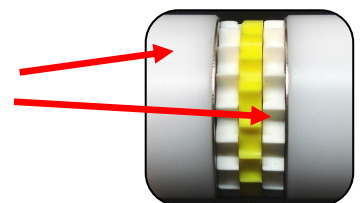
The feed rollers are easily exchanged by removing the feed mechanism as follows:

1. Ensure the hopper is completely empty.
2. Undo and remove the 2 black plastic knobs holding the mechanism in place and slide out the feed block.
3. Undo and remove the 4 socket head screws on the end of the housing and remove the end plate. Slide the feed rollers and spacers off the shaft and replace with the alternative rollers required.

The black blanking spacers (3 supplied) are the same width as the small seed rolls and are used in combination with the feed rolls to allow 1, 2 or 3 feed rolls per outlet to be used or to replace the feed rolls and blank off an outlet completely. For example if reducing the number of outlets from 8 to 7, to correspond with subsoiler legs or tines, remove all the feed rollers from that that outlet and replace with a 5mm blanking spacer.



NOTE: One stainless disc needs to be fitted to each side of the 5mm small seed rolls. They are used to reduce the friction element between the small seed rolls and the plastic spacers that are to each side of them.



Remember to blank off the relevant air pipes using the push-in PVC plugs supplied.

NOTE: When re-fitting the end plate to the feed block after changing the feed roller 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 rolls and spacers should not be under compression. To check the correct feed roller and spacer configuration. Once re-assembled, slide the feed block assembly back into the machine ensuring the drive shaft engages correctly by slowly rotating the feed shaft. Once engaged secure the two black plastic retaining knobs.

17.2 Feed Block Assemblies - Optional

For some applications, such as applying very small seed or granular product, a low rate feed block assembly is recommended. This block has been developed to eliminate finer products from leaking around the feed rollers and into the airstream. These feed blocks can be used with the standard feed rollers supplied with the machine when applying very small seeds at low rates.

Part Number: **TJ196B** (8 outlet machine)

Part Number: **TJ196F** (10 outlet machine)

For fine granules at higher application rates such as *Avadex® Excel 15G the following feed block assemblies kits will be required.

Part Number: **TJ8-20 Section** (8 outlet machine)

Part Number: **TJ10-20 Section** (10 outlet machine)



Photo showing a TJ8-20 Section Feed Block Assembly

NOTE: When assembling the feed rollers, ensure the outer two rollers are positioned so that the blank end faces each of the end plates.

17.3 Feed Block For Fertiliser - Optional

For applying abrasive granular products such as starter fertiliser or low rates of prilled fertiliser the Low Rate Feed Block fitted with stainless components must be used.

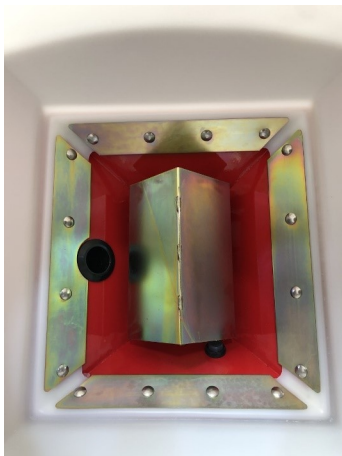
Part Number **TJ8SS** (8 Outlet Machine)

Part Number **TJ10SS** (10 Outlet Machine)

⚠ WARNING! It is the responsibility of the operator to ensure the feed block assembly is suitable for the product being applied.

NOTE: Before applying very fine seeds or product please contact your local dealer or Stocks Ag directly to ensure the machine is suitable. Failure to do so could invalidate your warranty.

18.0 Hopper Baffle Plate



Turbo Jet 8 Hopper Baffle Plate Part number: **TJ471**

Turbo Jet 10 hoper baffle plate Part number: **TJ472**

⚠ WARNING! A Hopper Baffle Plate must be fitted when applying fertiliser or any other dense product to reduce the pressure on the feed block assembly and so reduce strain on the feed motor.

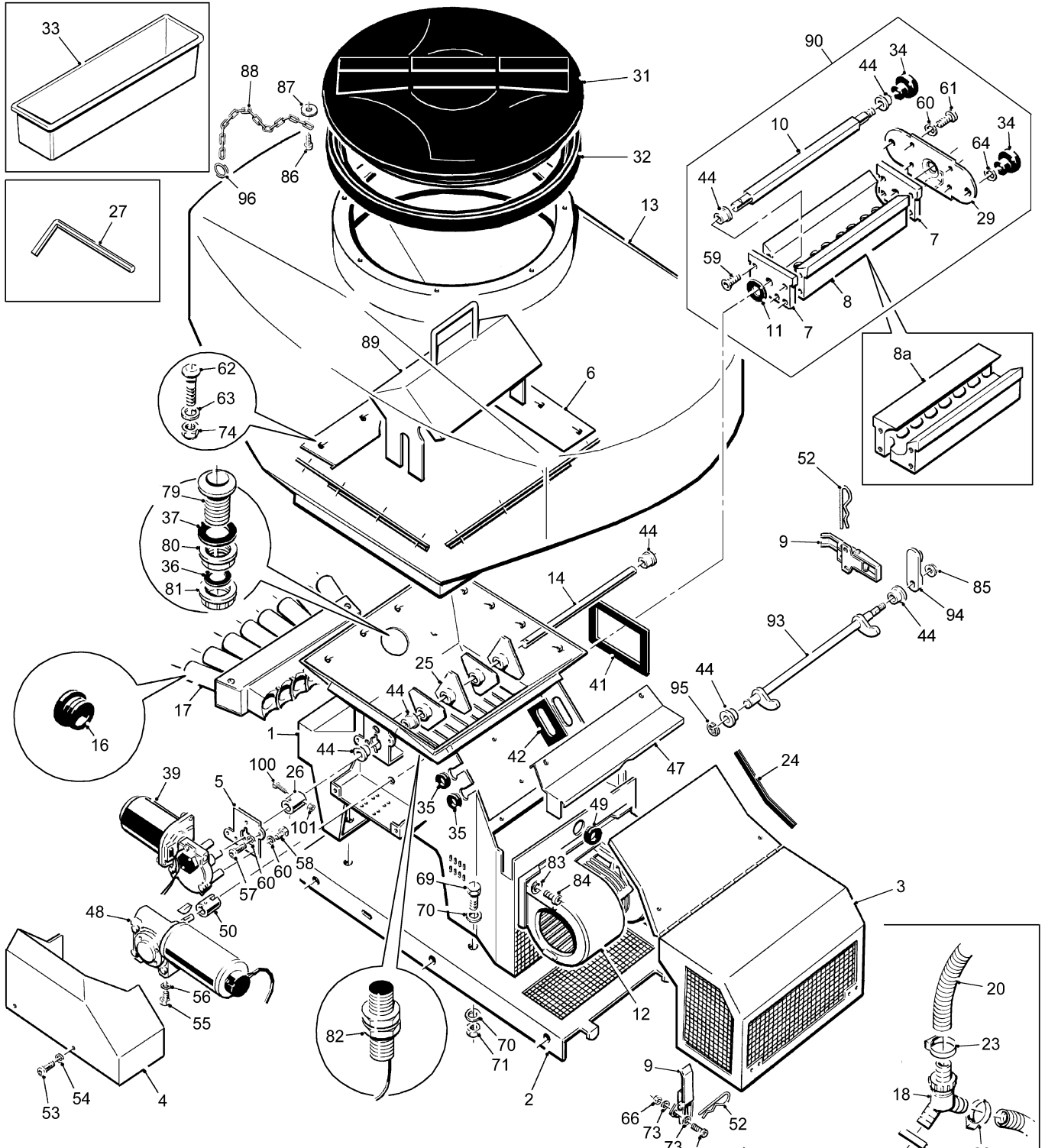
Failure to do so may damage the feed motor and invalidate the warranty.

NOTE: All 400L machines are supplied with a hopper baffle plate as standard.

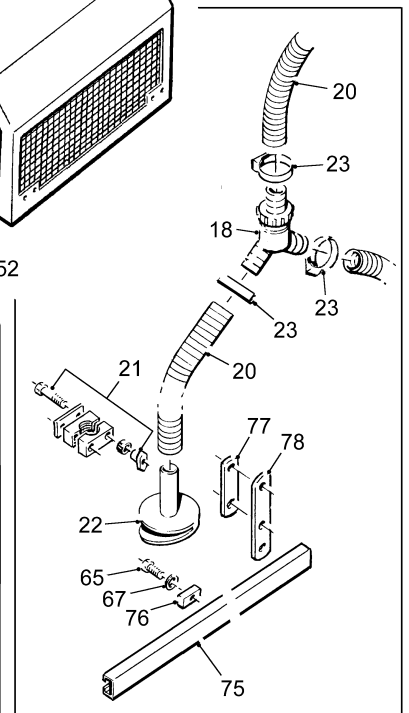
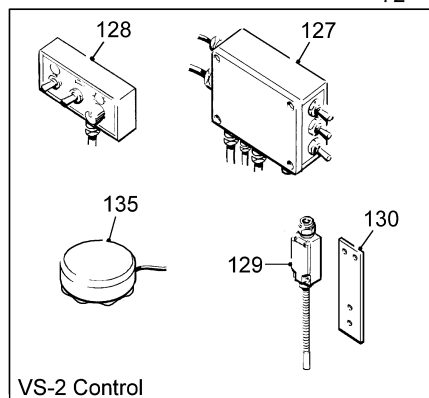
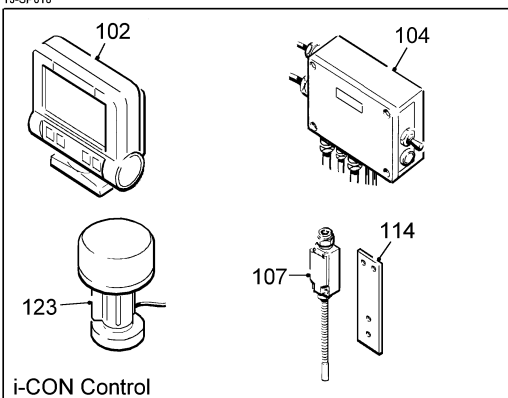
All parts available through your local Stocks Ag dealer.

*Avadex ® is a Trademark used under licence by Gowan Crop Protection Ltd.

19.0 Turbo Jet Parts



TJ-SP018



19.1 Turbo Jet Part Numbers

Item	Part No.	Description	Qty.	Remarks
1	TJ400A	Chassis (8 outlet)	1	
	TJ400B	Chassis (10 outlet)	1	
2	TJ422	Base Plate (8 & 10 outlet)	1	
3	TJ425A	Fan Guard (8 outlet)	1	
	TJ425B	Fan Guard (10 outlet)	1	
4	TJ418	Motor Guard (8 outlet)	1	
	TJ459	Motor Guard (10 outlet)	1	
5	TJ429	Agitator Motor Plate	1	
6	TJ465	Support Plate Kit	1	Set of 4 plates
7	TJ101A	Feed Block End Cap	2	Counter Bored
8	TJ102	Feed Block (8 outlet)	1	
	TJ098C	Feed Block (10 outlet)	1	
8a	TJ102A	Low Rate Feed Block (8 outlet)	0	Cost Option
	TJ098D	Low Rate Feed Block (10 outlet)	0	Cost Option
9	TJ103	Fastener Assembly	4	
10	TJ104D	Metering Shaft (8 outlet)	1	
	TJ099C	Metering Shaft (10 outlet)	1	
11	TJ033	Feed Block Gasket	1	
12	TJ124	Double Fan Unit (8 & 10 outlet)	1	
13	TJ126A	Hopper (240L)	1	
	TJ125A	Hopper (400L)	1	
14	TJ138	Agitator Shaft (8 outlet)	1	
	TJ138A	Agitator Shaft (10 outlet)	1	
15				
16	TJ219	Blanking Plug (8 & 10 outlet)	3	
17	TJ218A	Feed Unit Manifold (8 outlet)	1	
	TJ217A	Feed Unit Manifold (10 outlet)	1	
18	TJ220- Assembly	"Y" Connector—Assembly	8 or 10	8 or 10 outlet
20	TJ222	Ø32mm Hose	30m	Not shown
21	TJ223	Clamp Assembly		As required
22	TJ224	Spreader Plate Assembly		As required
23	TJ227	Ø40mm BZP Hose Clip		As required
24	TJ038	Strip Seal	2.4m	
25	TJ021A	Agitator Paddle (8 outlet)	4	
	TJ021A	Agitator Paddle (10 outlet)	5	

20.2 Turbo Jet Part Numbers Cont

Item	Part No.	Description	Qty.	Remarks
26	TJ137	Coupler	1	
27	TJ131	4mm Allen Key	1	
28				
29	TJ416	Cassette Mounting Plate	1	
30				
31	TJ128	Hopper Lid	1	
32	TJ129	Neck Ring	1	
33	TJ130	PVC Calibration Tray	1	
34	FJ033A	M8 Fem Knob	3	
35	GRO03	Rubber Grommet	2	
36	TJ053	Rubber Washer	1	
37	TJ054	Rubber Washer	1	
38				
39	GA046B	Agitator Motor	1	
40				
41	TJ040	Feed Block Gasket	1	
42	TJ041	Junction Box Gasket	1	
43				
44	GA103	PVC Flanged Bush	6	
45	TJ055-1	PVC Blank Plug	1	Not shown
46				
47	TJ430	Hinge Guard (8 outlet)	1	
	TJ431	Hinge Guard (10 outlet)	1	
48	TJ044B	Feed Motor	1	
49	TJ039	Rubber Grommet	1	
50	TJ043A	Coupler	1	
52	FJ419A	R' Clip	4	
53	M6-003	M6 Setscrew	2	
54	M6-016	M6 Flat Washer	2	
55	M5-011	M5 Setscrew	4	
56	M5-014	M5 Flat Washer	4	
57	M6-004	M6x16 Bolt	2	
58	M6-004	M6x16 Bolt	3	
59	M6-007	M6x20 CSK Setscrew	4	
60	M6-016	M6 Flat Washer	6	
61	M6-008	M6x25 Button Head Setscrew	4	
62	M8-004	M8x20 Dome SQ Bolt	16	
63	M8-010	M8 Flat Washer	16	

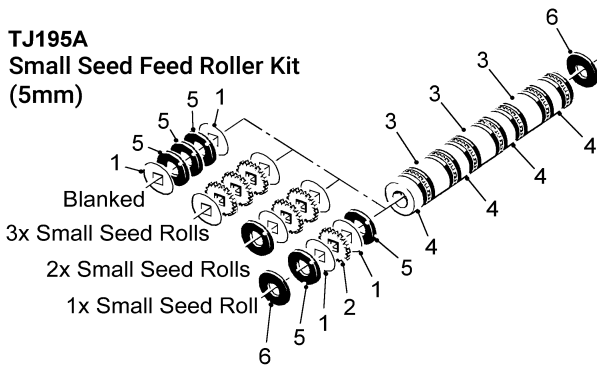
20.3 Turbo Jet Part Numbers Cont

Item	Part No.	Description	Qty.	Remarks
64	M8-012	M8 Penny Washer	2	
65	M10-001	M10x16 Bolt	a/r	
66	M4-004	M4 Lock Nut	4	
67	M10-016	M10 Flat Washer	a/r	
68	M10-024	M10 Lock Nut	3	
69	M12-003	M12x35 Bolt	4	
70	M12-008	M12 Flat Washer	8	
71	M12-014	M12 Lock Nut	4	
72	M4-001	M4x6 Socket Head Setscrew	8	
73	M4-006	M4 Flat Washer	8	
74	M8-019	M8 Lock Nut	16	
75	TJ150	'C' Rail 2 metre length	4	
76	TJ151A	Channel Nut	a/r	
77	TJ152-1	Short Clamp Plate 2 Holes	a/r	
78	TJ153	Long Clamp Plate 3 Holes	a/r	
79	TJ050	Tank Outlet	1	
80	TJ051	Nut	1	
81	TJ052	Blanking Cap	1	
82	TJ251A	i-CON Hopper Level Sensor	1	
83	M4-006	M4 Flat Washer	8	
84	M4-003	M4 Setscrew	8	
85	M8-019	M10 Lock Nut	1	
86	TJ1285	Self Tapping Screw	1	
87	M5-015	Washer	1	
88	MM019	Loop Link Chain	1	
89	TJ471	Tank Baffle (8 outlet)	1	400L models only
	TJ472	Tank Baffle (10 outlet)	1	400L models only
90	TJ196A	8 Outlet Feed Block Assembly	1	
	TJ196E	10 Outlet Feed Block Assembly	1	
	TJ196B	8 Outlet Low Rate Feed Block Assembly	1	Cost Option
	TJ196F	10 Outlet Low Rate Feed Block Assembly	1	Cost Option
93	TJ435A	Door Release Shaft TJ8	1	
	TJ440A	Door Release Shaft TJ10	1	
94	TJ437A			
95	TJ433	E-Clip	1	
96	FJ418A	Split Ring	1	
VS-2 Control System :				
100	M3-003	M3 Bolt	1	
101	M3-008	M3 Lock Nut	1	
127	TJ284	Machine Junction/Switch Box	1	
128	TJ282	Cab Control Panel	1	
129	TJ252	Finger Switch	1	Cost Option
130	TJ253	Finger Switch Mounting Plate	1	Cost Option
131	TJ238	5m Fused Power Cable	1	Not shown
132	TJ247	5m Power Extension Cable	1	Not shown
133	TJ288	6m Connector Cable	1	Not shown
135	TJ256	GPS Receiver	1	Cost Option

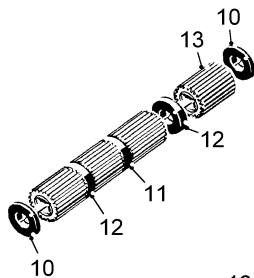
20.0 Seed Feed Roller Kit Parts

Turbo Jet 8 Outlet

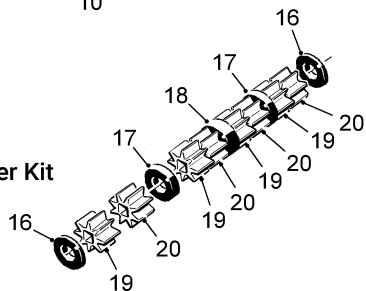
TJ195A
Small Seed Feed Roller Kit
(5mm)



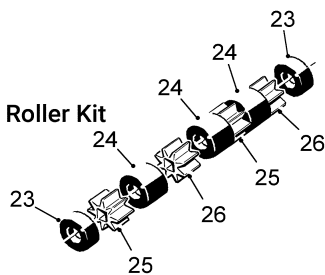
TJ195B
Granular Feed Roller Kit
(20 Section)



TJ193A
Large Seed Feed Roller Kit
(Grass)

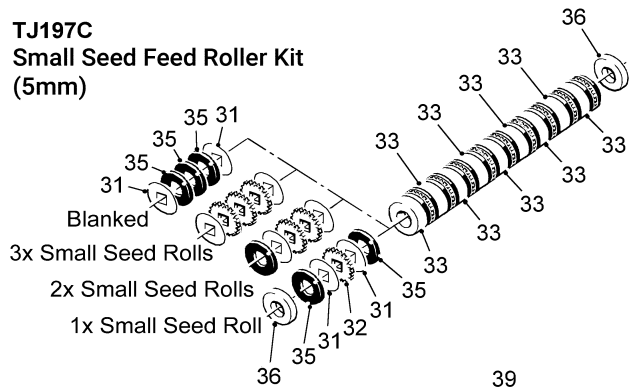


TJ192A
1/2 Large Seed Feed Roller Kit
(Grass)

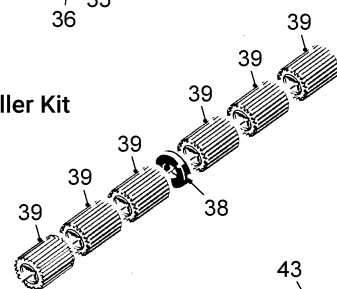


Turbo Jet 10 Outlet

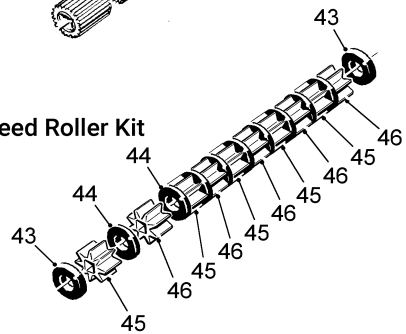
TJ197C
Small Seed Feed Roller Kit
(5mm)



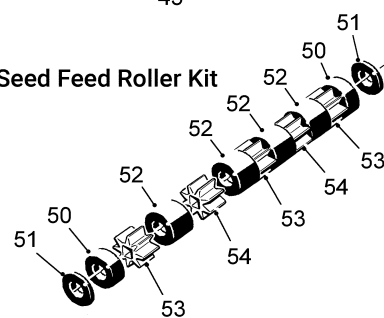
TJ197B
Granular Feed Roller Kit
(20 Section)



TJ197D
Large Seed Feed Roller Kit
(Grass)

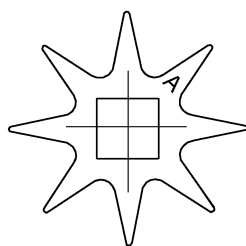


TJ197E
1/2 Large Seed Feed Roller Kit
(Grass)

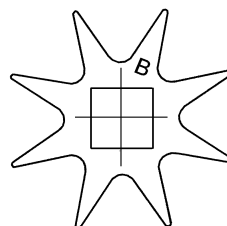


TJ-SP015

Large Seed Feed Rollers (Grass)



Part No. GA110B-A



Part No. GA110B-B

20.1 Seed Feed Roller Kits Part Numbers

Item	Part No.	Description	Qty.	Remarks
	TJ195A	8 Outlet 5mm Small Seed Feed Roller Kit :		
1	TJ199	Stainless Steel Shim	16	
2	TJ200	5mm Small Seed Roll (White)	16	
	TJ201	5mm Small Seed Roll (Yellow)	8	
3	TJ203	24.6mm Spacer	3	
4	TJ204	13.5mm Spacer	4	
5	TJ205	5mm Spacer	19	Includes 3 spare
6	TJ207A	3mm Spacer	2	
7	TJ219-1	PVC Manifold Blanking Plug	3	Not shown
	TJ195B	8 Outlet 20 Section Seed Feed Roller Kit :		
10	TJ207A	3mm Spacer	2	
11	TJ208	10mm Spacer	1	
12	TJ212	12.25mm Spacer	2	
13	GA110	20 Section Feed Rollers	4	
	TJ193A	8 Outlet Seed Feed Roller Kit :		
16	TJ207A	3mm Spacer	2	
17	TJ208	10mm Spacer	2	
18	TJ204	13.5mm Spacer	1	
19	GA110B-A	8 Section Grass Seed Roller (A)	4	
20	GA110B-B	8 Section Grass Seed Roller (B)	4	
	TJ192A	8 Outlet 1/2 Seed Feed Roller Kit :		
23	TJ209	15.4mm Spacer	2	
24	TJ213	39.5mm Spacer	3	
25	GA110B-A	8 Section Grass Seed Roller (A)	2	
26	GA110B-B	8 Section Grass Seed Roller (B)	2	

