AG Air Master

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Product Manual and Specifications

To effect the correct application of the safety requirements stated in the EEC Directives and the British
Standards, the following standards and/ or technical specification have been used.

- **BS EN ISO 4254-1:2005** - Agricultural machinery - Safety and General Requirements.
- **BS ISO14269-1:1997 -**Tractors and self-propelled machines for agriculture Operator enclosure environment.
- **BS EN 292-1:1991** - Safety of machinery and the Basic concepts and general principles for design - Basic terminology, methodology.
- **BS EN 292-2:1991** - Safety of machinery - Basic concepts, general principles for design- Technical principles and specifications.
- **BS EN 294:1992** - Safety of machinery - Safety distances to prevent danger zones being reached by the upper limbs.
- **BS 5401:1990** - Guide to information content and presentation of operators' manuals provided for tractors and machinery for agriculture and forestry.

Serial No._____
Date:_____

OPERATING AND CALIBRATION INSTRUCTIONS

Keep clear when operating

The moving parts of this machine are powerful and can pull in a finger or clothing. Be especially careful whilst performing calibration tests. To assist filling the hopper, if necessary, fabricate and fit a work platform and steps, complete with handrails.

If using agrochemicals, read the label before you buy, use pesticides safely and wear suitable protective clothing and aspirators.

Use the tank outlet to empty the hopper after use to avoid any risks to humans or wildlife. Run the feed rolls to fully empty into the calibration tray

APPLICATION RATES

A combination of forward speed, implement width and roller type will determine what rates are available.

NOTE: If it is not possible to achieve the rate required for your forward speed and implement width in one pass, you may have to cover the ground twice and reduce the rate on each pass accordingly.

NOTE: When using the Vari Speed control, the application rate is fixed and does not alter in line with changes in forward speed. Once the machine has been calibrated you must maintain a constant forward speed – the rate can be changed manually on the move from the tractor using the speed dial on the cab console.

CALIBRATION GUIDES

These guides work for all seeds and granules. Use the guide appropriate for your width of machine.

NOTE: If your machine is not in whole metre widths or wider than the guides allow for, refer to 'WIDTHS NOT IN WHOLE METRES' section.

HOW TO USE THE GUIDES

1. Select your intended speed in KPH
2. Select your intended application rate in kilograms per hectare
3. Where the two line intersect in the body of the chart indicates the weight of material that needs to be collected over a 3 minutes catch test to give the intended application rate.
4. Compare the collected weight to the indicated weight in the grade. You will see if you need to increase or decrease output.

WIDTHS NOT IN WHOLE METRES

The guides are in whole metre widths – if your machine is wider than the quoted width of the Calibration Guides, you have to collect more material during the 3 minute to compensate.

The amount indicated on the guide must be increase by a factor relevant to your machine width. To obtain that factor:

1. Divide your **actual** working width by the whole metre width **below**.
2. Using the Calibration Guide for the nearest whole metre width **below** your actual width – multiply the indicated amount to be collected by your factor. The resultant figure is the actual amount your need to collect over 3 minutes.
3. **EXAMPLE**

Actual width 4.5m = FACTOR	1.125
Intended application rate	24 kg/Ha
Intended speed	11KPH
Indicated amount from 4m guide	5.28kg
5.28 x FACTOR 1.125 =	5.94

Therefore, 5.94kg is the amount to be collected over 3 minutes.

CALIBRATION PROCEDURE

You will need the supplied plastic calibration tray, a watch and an accurate set of scales to weigh kilograms and grams.

1. **AT THE JUNCTION BOX**
   Switch the fans OFF at the junction box.
   Switch the agitator ON or OFF as required.
   Switch the feed motor OFF.
2. Release the two over-centre catches and drop the hinged panel under the cassette manifold.
3. Position the collection tray directly underneath to catch the material to be metered.
4. Start the vehicle and set engine rpm to typical to ensure normal electrical supply.
5. Place a few kilograms of material in the hopper.

VARI SPEED CAB CONSOLE. Select HIGH or LOW range, select DIAL speed. When you are ready t begin, switch POWER on, and then use the junction box switch to turn the feed motor ON and OFF. Run the feed motor for the required time.

1. Weigh the collected amount in kilograms.
2. Refer to the CALIBRATION GUIDES.
3. Use the High or Low speed range, and the speed dial to increase or decrease the rate accordingly and repeat the procedure until the correct output for your machine width and forward speed is reached. Note the setting for future reference.

HINT! If you are seeding grass it is probable that your will only be able to collect seed from around 30 seconds to 1 minute before the calibration tray is full. If the time is reduced from 3 minutes remember to adjust the amount before using the guides, for example.

If reduced to 2 minutes, multiply the actual amount collected by 1.5 (3 divided by 2 = 1.5)

If reduced to 1 minute, multiply the actual amount collected by 3 (3 divided by 1 = 3)

If reduced to 30 seconds, multiply the actual amount collected by 6 (3 divided by 0.5 = 6)

NOTE: Use these corrected figures with the calibration guides

READY FOR WORK

1. Close the hinged panel and secure with the over-centre catches.

2. Ensure the fan is running – switch junction box to ON.
3. Ensure the feed motor is running – switch junction box to ON.
4. Ensure the agitator is running if required (grass seed).
5. Check all outlet pipes are seeding correctly.

FIELD OPERATION

BEFORE STARTING WORK

Calibrate the machine as described.
Make a note of the settings for future reference.
Note or memorize the correct travel speed for the settings you have chosen.
Use the cab console to turn the feed rolls ON and OFF as required.

STARTING WORK. Ensure that you are travelling at the correct chosen speed and bout width.
STOP after a few metres – check for even distribution, spread and application rate.
REPEAT all the above checks at regular intervals until you are certain the job is being done correctly.
PLEASE clean out the machine at the end of the day, use a brush not your hand to sweep out the bottom of 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.

CLEANING AND STORAGE

Do not jet wash the machine – use an air-line and brush to blow down and clean. Ensure all seed is removed from the feed rolls and from inside the hopper and the body of the machine. Store under cover and spray electrical connections with a suitable corrosion preventative spray or similar. The cab console is not waterproof – store in dry conditions.

WARRANTY

The warranty period is 12 months from date of invoice. Contact our office in the event of any problem or before attempting any repair. If the Turbo Jet or controls or wiring are modified in any way this will void any warranty claim.

HOW MANY SMALL SEED FEED ROLLS???

Note: 1 feed roll permits the lowest forward speed and seed rate, but also limits the top speed.
2 feed rolls permits a higher top speed and seed rate but increases the lower speed.
3 feed rolls permits the highest top speed and seed rate but also increases the lower speed further.

Note: Rape seeding. For typical rates and forward speeds, 1 feed roll is usually adequate for implements up to 4m wide, possibly up to 6m wide depending on the rate. 2 feed rolls may be required for implements over 4m wide.

Note: Other small seeds and higher seeding rates may require 3 feed rolls.

IMPORTANT:
IF YOU FIND THAT YOU CANNOT ACHIEVE YOUR DESIRED FIELD SPEED WITH 1 FEED ROLL PER OUTLET, FIT 2 FEED ROLLS PER OUTLET AND REPEAT THE PRODUCT CALIBRATION. THE MINIMUM SPEED WILL CHANGE, AND A HIGHER MAXIMUM SPEED WILL BE ACHIEVABLE.

Two sizes of feed roll are available, 8 section for high rate applications (grass). 5mm wide small seeds, 1,2 or 3 rollers as required (rape, etc).
The rolls are easily changed by removing the feed mechanism as follows:
Remove the plug from the feed motor. Undo and remove the 4 black plastic knobs holding the mechanism in place (2 each side) and slide the complete mechanism out. Undo and remove the 4 socket head access screws on the end of the housing and remove the end plate. Slide the rolls and spacers off the shaft, and replace with the alternative rolls and spacers as shown. Refit the end plugs and re-fit the mechanism and black plastic knobs. Re-fit the motor plug.

Note: The 20 section rolls are available in 2 widths. As standard, the Vari Speed model is supplied with full width 20 section rolls for higher application rates of small seeds. If you cannot achieve the required application rate using these rolls, half width rollers are available to allow low rate application of small seeds.

The rubber feed rolls have square holes in the middle that locate on the square feed shaft, and rotate with the feed shaft, powered by the 12v electric feed motor. The nylon spaces have round clearance holes through the middle and are not driven and thus do not revolve and an element of friction may occur between the revolving rubber feed roll and the stationary nylon spacer.
To eliminate this friction, the stainless disc also has a square hole and locates on the drive shaft and thus rotates with the rubber feed roll. Any friction is now between the rotating stainless disc and the static nylon spacer.

Rubber Feed Rolls and Stainless Steel Discs

Note: Always assemble the rolls and spacers with a stainless steel disc on each side of the rubber feed rolls. Use 1 stainless disc each side of the rubber feed rolls if a

single rubber feed roll is used – if 2 or 3 feed rolls per outlet are used, fit 1 stainless steel disc to each side of the outer rubber feed rolls. Do not fit the steel disc between the rubber feed rolls.

Note: You should have used 2 steel discs per outlet (a total of 16) and the rubber rolls should be sandwiched between them. The total bank of rolls and spacers and steel discs should not protrude beyond the end of the feed block.

GRASS SEED AND GRASS SEED MIXES

Grass Seed Rolls. Select the wide 50mm transparent feed rolls with appropriate spacers.

SMALL SEEDS – RAPE, MUSTARD, TURNIPS, etc

Small Seed Rolls. Select the narrow black feed rolls – there are 24 of these supplied as standard and depending on the combination of required seeding rate, implement width and forward speed, you may have to use 1, 2 or 3 rolls per outlet in combination with the black roll spacers to achieve the application rate. Maximum rates are achieved using 3 rolls per outlet, a total of 24.

Roll Spacers (Black). The black roll spacers are the same width as the feed rolls and are used to replace a feed roll if you are using only 2 feed rolls – use 8 spacers and 16 rolls, or only 1 feed roll – use 16 spacers and 8 rolls. Each Turbo Jet is supplied with 19 roll spacers as standard.

Standard Spacers (White). There are 2 x white small end spacers, 4 x white mid spacers, and 3 x white large spacers – these always stay in the same order and position whatever the combination of feed rolls and feed roll spacers.

Stainless Steel Discs. There are 16 of these fitted to each feed mechanism, 1 stainless disc to each side of the rubber feed rolls. They are used to reduce the friction element between the rubber feed rolls and the nylon spacers that are to each side of them.

SMALL SEED ROLLS AND STAINLESS DISCS

To blank off an outlet.
To completely blank off an outlet, remove all feed rolls from that outlet and replace with 3 x black roll spacers if reducing the number of outlets from 8 to 7, 6 or 5 to correspond with subsoiler legs or tines. Remember to blank off the air pipes using the plugs supplied.
Note. It is important to still fit the stainless steel discs to each side of the bank of 3 blanking rollers to maintain the correct spacing overall.

Re-fitting feed block and plates
Re-fitting the end plates to the feed block after changing the configuration of the small seed feed rolls – 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 – there may be a small amount of end float to the bank rolls and spacers in the block. If this exceeds 1mm, fit the additional steel discs as shims to reduce the end float to approximately 1mm – fit between the last feed roll or 5mm black roll spacer, and the white end spacer. The total bank of rolls, spacers and steel discs should not protrude beyond the end of the feed block. Re-fit the end plate and the mechanism, and secure with the black plastic knobs. Re-fit the motor plug. Test before use.