

HD11

HARMONY DUSTER

Operating and Service Manual

User's Manual
Harmony | Duster

HARMONY DUSTER

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1. INTRODUCTION

By choosing our Phoenix Harmony Duster, you have selected a product which represents the result of intensive research in the field of high-tech powder dusting application and a product which is assured to have a long life with negligible service & precise and consistent performance.

The handbook explains how to install a Phoenix Harmony Duster and provides all the necessary information in order to ensure easy use and good maintenance.

It is very important to read the handbook carefully and completely before implementing any task on the Duster, in order to work with the machine in perfect conditions.

This handbook should be kept in a safe place

1. Narration of the Machine and Technical Specifications

The Harmony Duster HD11 is used for the distribution of powders or pre-mixed powders with Sulphur on the crops. One can control the flow of dust coming out of the tank by means of an adjustable lever attached at the bottom of the tank. The suction by the hi-speed fan and the agitator makes the dust/powder to go down through the ventilation housing and is disseminated by the contrasting outlets in an uninterrupted & uniform manner.

The drive of the fan is achieved by the multiplier with bevel gears, coupled to the Spline shaft into which the drive shaft is mounted.

2. TECHNICAL SPECIFICATION

Tank	With capacity from 50 kg to 75
Mechanical Agitator	Inside the tank
Dust flow control	With lever from position 0 to position 5 with output From 0 kg/min to 7 Kg/min.
Ventilator	In steel dynamically balanced
Iron Frame	Load bearing, with 3 point linkage as standard
Ventilator housing and gearbox	In anti-corrosion aluminum fusion
Multiplier	In aluminum fusion with helicoidal bevel gears in tempered steel with EP 220 Oil bath lubrication
Universal Joint	In the middle of the spline shaft standard Z6 1"3/8 with maximum PTO speed of 540 rpm.
Power absorption	About 5/6 Cv
Weight (Kg)	46 Kg
Width with fans	1050 mm
Height (mm)	1070 mm
Depth (mm)	500 mm

3. SAFETY PRECUATIONS

It is dangerous to get close to the moving/rotating parts after the Duster is mounted on the tractor with the engine running and the shaft engaged. Do not place hand, sticks or any object similar in the vicinity of the tank, the fan or the PTO shaft. Whenever there is a need to service these parts the PTO start –up lever must be placed into neutral, tractor must be switched off and the key removed from the panel.

Always check the safety devices before starting to use the Duster.

Do not use the Duster for purposes other than that for which it was intended.

Read carefully the technical data sheets of the products to be used. It is possible to use any type of sulphur and/ or per-mixed powder products. Remember that the agitator inside the tank facilitates the performance of the duster but not the actual mixing of the product.

Do not leave the driving position while the Duster is in operation.

In the event of any breakdown immediately stop using the machine and seek assistance from qualified personnel. Do not use the Duster unless it is repaired and certified for next usage.

Always use genuine spare parts in case of any replacements.

In the event of smoke being detected in the fan area shut – off the dust flow control lever and immediately disengage the power take –off (PTO) and then take necessary actions.

4. MACHINE INSTALLATION :

For ease in logistics some parts have been placed inside the tank and subsequently needs to be assembled.

The arrangement of wavering chains helps obtain finest control of the diffusers and at the same time the right oscillation in the event of any impact.



Harmony Duster HD11

While holding the chains on the upward facing fans, attach the same with the opposite clamps to the ventilator housing outlets; then connect the chains to the hooks of the tank adjusting the fan for optimum distribution of the power on the crop. Where there are lateral locking mechanisms, fix them in place with the lever facing upwards, between the crankcase ventilator and the diffusers.

5. STARTING UP AND USING THE MACHINE

When mounting the Duster to the tractor first turn off the engine, remove the key from the panel and activate the parking brake.

Proceed with the attachment operation inserting the attachments in the appropriate holes and connecting the third point taking care to insert all of the shear pins.



Connect the drive shaft to the PTO of the duster ensuring that the locking pin in the shaft is positioned in the appropriate cavity finally attach the safety chains provided to the shaft

Adjust the machine so that it is in the center of the tractor lifter and sufficiently fixed; adjust the third point so that the duster assumes an almost vertical position.

Check that the length of the drive shaft is appropriate in all of the positions & lifter. A long drive shaft could stress and damage the gear mechanisms of the machine.

Before proceeding with filling the tank with Powder, which must be done only in the field of operation, proceed in the following manner.

- Check that the dust flow control lever is position 0 (locked position) and start the machine while empty for a few seconds.
- Check that the dust tank and the ventilator housing are dry. Inside the tank is a mechanical agitator so when the machine is in operation or even if it is positioned on the tractor ready for use it is forbidden to enter within the operation radius of the tank.
- The treatment product must not be damp as it could undermine the uniform application of the treatment. Use only hermetically sealed products in order to avoid any possible impurities entering the tank. For treatments carried out during warm seasons in cases of humidity it is advisable to leave the product in the sun for a few hours before making the treatment.
- Pour the product into the tank taking care that parts torn off the packet don't fall in; close the tank with the opposite lid.
- When starting up the machine always engage the PTO slowly taking care if possible to not cause any kickbacks.
- Adjust the flow of the product with the opposite lever or remote control, referring to the numbered (Pos. from 1 to 5) located on the cover of the ventilator housing. In order to establish the dose per hectare it is necessary to refer to temporal units of measure; with the duster in operation with the lever in position 1 it distributes around 1.4 Kg/minute of Sulphur. The quantity distributed per hectare depends on the speed of operation or the dispersion of the product based on the type of facility to be treated. Once the dose has been established position the opposite locking mechanism in order to enable rapid opening –closing.
- Sulphur dust is biological product. During use or when filling the tank it is up to the operator whether to use protective overalls, gloves, goggles or a protective helmet.

6. SERVICING AND MAINTENANCE :

All maintenance must be carried out when the duster is disconnected from the tractor. There is no requirement to use special tools.

It is necessary to store the duster with the dust tank absolutely empty.

Do not wash the duster with water or similar liquids.

It is advisable to lubricate the dust cap on the bottom of the tank at least once year at the end of each treatment in the case of remote flow control. In order to lubricate, close the dust flow lever and with the aid of an oiler inside the tank, oil the perforations on the bottom; afterwards activate the lever to open and close several times.

Before every treatment check visually the oil level from speculates of the multiplier.

If necessary fill up the oil level with lubricant EP 200. Replace completely the oil from the multiplier after 500 worked hours (Quantity Lt 0.3 for HD 11 series). Every 200 hours check the degree of viscosity and purity oil with outside temperatures of 40 degree centigrade and more, one advises to use synthetic oil.

7. WARRANTY AND DISCLAIMER

The Duster is guaranteed against any material or manufacturing defect for 1 year from the date of delivery.

The guarantee comprises the replacement of the parts recognized as being defective & returned ex-works to our headquarters at Dahanu; labour costs for carrying out repairs is not included. We would remind you that it is advisable to effect a grant start –up of the PTO, repeated kickbacks with high revs and tractors with a high horse power could cause damage to the gears even with a perfectly mounted box and it is therefore advisable to use a card an with a limiter particularly for double clutch track .

The warranty will be null and void in the case of any of the following:

- The duster with a PTO speed that exceeds 550 rpm.
- Stones, sticks, etc getting jammed in the moving parts of the machine.
- Any modifications being made to the Duster by the buyer.

The persistence in using the duster after the detection of any anomaly. Changes to the machine brought about by the incorrect actions of the operator.

The manufacturer accepts no liability whatsoever for any eventual damage to persons, animals or objects caused by an improper use of the duster or by the operator in a manner different to that indicated in the current leaflet

THANK YOU

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