

# Martin Lishman

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## **Trouble-Dry™ Hot Spot Aeration Spear & Fans Operating Instructions**

**Models: Trouble-Dry Standard & Trouble Dry Extra with Grain Spear or Rape Spear**

On receipt of the Hot Spot Spear and Fan check for damage that may have occurred during transport. Make sure the main fan impeller is rotating freely; there should be no contact between the impeller and fan casing. **(N.B. Do not carry out these checks if the fan is connected to an electricity supply).** If the fan shows any sign of damage on arrival - DO NOT USE IT. Report any damage to your supplier. Any damage not reported within 24 hours of receipt of the fan will not be considered as a warranty claim.

1. Before screwing the spear into the grain attach the handle approximately half way down the spear. Screw the spear into the area of the 'Hot Spot', raising the handle up the spear as necessary.
2. If not supplied with the fan, fit a 13 amp plug to the cable making sure that the correct colour code is followed. **Please note that the 13 amp plug should be fitted with a 3 amp fuse.** If in doubt or if difficulty is experienced, consult a qualified electrician.
3. Fit the fan into the top of the pipe, ensuring that it is well seated. ***The fan should not be run in free air.*** The maximum operating current is shown on the motor plate. Plug in and switch on.
4. If an extension lead is to be used it must be of the correct thickness for the length of the extension. Extension leads should be multi-stranded 2 core and earth cable, with each core of the following thickness:  

up to 25 metres - 1.25mm	up to 50 metres - 2.5mm	up to 100 metres - 4.0mm
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 If in doubt about the type of extension lead to use, consult a qualified electrician.
5. Whatever the circumstances of use of the Trouble-Dry Fan, and whatever the operating conditions, it is the responsibility of the user to ensure that the fan is capable of operating correctly and safely in the situation in which it is intended to operate the fan.
6. **Do not use the Trouble-Dry Fans or Spears in association with corrosive materials such as Propionic Acid (Prop Corn). They will destroy the fan impeller very quickly. Any damage to fans caused by corrosive materials will not be covered under warranty. (See Item 13)**
7. The spear should be removed with care as the force of unscrewing is against the spiral, rather than with it. Excessive force can break the spiral; the handle should not be extended in any manner to gain additional leverage. ***(See Item 8 below)***. If it is not possible to unscrew the spear without undue force, it is probable that the 'Hot Spot' has not been sufficiently cooled and the fan should be run for longer. In any event it should be anticipated that a minimum period of 12 hours aeration would be required before the fan is switched off and the spear removed.
8. **If the Hot Spot spear has been left in place for a long period of time, it may be very difficult to unscrew it and remove it from the grain. Using a lot of force when unscrewing the tube may cause damage to the spiral, so we recommend that the tube is screwed in to the grain a little way in order to release the tube before unscrewing it.**
9. The time required to cool a 'Hot Spot' depends on how wet and hot the grain is. Grain of higher moisture and temperature will take longer. This will also reduce the area cooled by the fan. The

Trouble-Dry Standard Fan should normally ventilate an area of grain 7'-10'(c.2-3m) square around the spear, whilst the Trouble-Dry Extra Fan should ventilate 12'-15'(c.4-5m) square. These areas should be taken into account when deciding where to position the spear in the grain.

10. The area ventilated is also reduced if the grain is shallower than 8'(2.4m). The fan will only suck air through the grain immediately around the spear, because this is the path of least resistance. To force the air to be sucked from further away, a proven method is to put a circular polythene sheet about 8'(2.4m) in diameter, around the spear, laid on the surface of the grain.
11. It is important to monitor the condition of stored grain, particularly to assess the temperature and find the hottest areas. This is critical when different grain loads come in at different temperatures and there are 'Hot Spots' spread throughout the store. Martin Lishman Ltd supplies portable temperature monitors and sensors that can give an accurate picture of the situation.
12. After the grain has been cooled it should be regularly monitored to check that it does not start to reheat. If it does, early remedial action can be taken using the Trouble-Dry Aeration Spear.
- 13. Trouble-Dry Rape Spears used with the Trouble-Dry Extra Fan are ideal for cooling dry rape. However, they are not recommended for ventilating wet oil seed rape, especially if it is very hot and is a high erucic acid variety. The high resistance to airflow in wet rape means the flow generated by Trouble-Dry fans is unlikely to be sufficient to cool the rape adequately. Moisture could also be concentrated near the base of the spear and this will add to the problem. The result could be a significant deterioration in quality and a rapid overheating of the rape. In these conditions high erucic acid rape can break down and release acid from the rape seed. This acid can destroy the fan impeller. Any adverse consequences of using Trouble-Dry Spears and Fans in these conditions are not covered under warranty.**

*For preventative insurance against 'Hot Spots' use Martin Lishman Pile-Dry Pedestals<sup>®</sup> and Fans. Contact Martin Lishman Ltd for further details.*

#### **Warranty**

Trouble-Dry Spears and Fans are guaranteed for 12 months from the date of purchase against any defect or malfunction caused by faulty parts or workmanship. To claim under warranty, the item should be returned, at the claimant's expense, to Martin Lishman Ltd with a written explanation of the problem. Should there prove to be a defect or malfunction caused by faulty parts or workmanship, it will be repaired or replaced and returned to the claimant without charge. If a warranty claim is rejected, the cost of replacement or repair will be notified to the claimant before any work is carried out.

Any warranty claim will automatically be invalidated if the item has been modified or internally tampered with in any way. The manufacturers will not cover under warranty damage or faults occurring to the item which have been caused by inappropriate use or by use not in accordance with the operating instructions.

It is the responsibility of the user to ensure that all electrical equipment has been installed in accordance with the relevant installation regulations, that all appropriate safety checks have been carried out before use and that regular on-going maintenance and safety checks are undertaken.

Under no circumstances will Martin Lishman Ltd re-imburse any costs associated with a warranty claim if these costs have been incurred without agreement in advance.

Under the terms of warranty for the Trouble-Dry Spears and Fans, under no circumstances will liability exceed the cost of replacement or repair. Martin Lishman Ltd will not be liable for any consequential or indirect loss suffered by purchasers or users, whether this loss arises from correct or incorrect use, defect or malfunction caused by faulty parts or workmanship or in any other way. Non-exhaustive illustrations of consequential or indirect loss are loss of profits, loss of contracts and damage to property.

Full Terms & Conditions available on request

#### **Technical Assistance**

For advice or help in the installation and operation of Trouble-Dry Spears and Fans contact Martin Lishman Ltd:

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