

TROUBLE SHOOTING GUIDE

PROBLEM	PROBABLE CAUSE	CORRECTIVE ACTION - CHECK POINTS
1 Applicator will not deliver full dose.	Applicator not primed or dose not set correctly. Inlet valve and seal ring not sealing, as foreign matter lodged under inlet valve. Foreign matter lodged in the delivery valve and spring assembly or a blockage in the spear.	Prime the applicator and set dose. Remove the inlet adaptor and inlet valve from applicator, clean with water and replace in applicator. Remove spear and delivery valve assembly from the applicator, clean the delivery valve assembly, nozzle fluid hole and re-assemble.
2 Slow applicator (fill and/or delivery rate of product).	Chemical backpack is not collapsing as the applicator draws fluid. Kinking or restriction of the feed tube. Piston seal rings and piston lubricating washer are dry or have not been lubricated.	Vent the backpack by removing it from your back, ensure the backpack is in the upright position. Gloves MUST be worn. Unscrew the draw off cap to allow air into the container. Re-tighten draw off cap and return it to your back to continue use. WARNING: Ensure you do NOT inhale any fumes of the product or allow the product to contact the body in any way or injury to the health of the operator may occur. Remove restriction or re-position the feed tube to avoid kinking. Remove cylinder from handpiece. Lubricate the piston seal rings and lubricating washer with NJ Phillips Lubricant as instructed. Lubricate the push rod shaft behind the piston.
3 Spitting of product from the spear or air being drawn into the cylinder from the spear end of applicator.	Foreign matter lodged in the delivery valve and spring assembly as in 1.3 above. Seal ring on delivery cage damaged or missing. Spear seal ring damaged or missing. Incorrect assembly and location of the delivery valve in the delivery cage.	Remove spear and delivery valve assembly, clean valve seat of delivery cage by rinsing and wiping with a soft cloth. Clean valve and spring and re-assemble. Check delivery cage seal ring for wear or damage and replace if necessary. Check seal ring on spear for wear or damage and replace if necessary. Check that delivery valve and spring are clean and reassembled correctly.
4 Spray pattern drooping at end of stroke / incorrect dose.		Point gun up and operate to expel air.
5 Slow on return stroke.		Check and clean inlet valve and check delivery strainer, clean and refill.
6 Jerky return stroke.	Caused by not cleaning properly.	Put plenty of clean water (preferably containing NJ Phillips Lubricant) through the gun.
7 Slow, incomplete delivery stroke.		Check and clean delivery valve and nozzle tip.
8 Cleaning gun.		Empty backpack and ensure it is clean, fill with clean soapy water and fire gun a number of times (set on full dose) to flush out product. Fill container with clean water and repeat. When storing the applicator, undo spear and pour NJ Phillips Lubricant into the cylinder obtaining a good coverage of the cylinder. Clean the tip, delivery valve and inlet valve regularly and re-lubricate to ensure lubrication and movement.

WARRANTY AND SERVICE SCOPE OF THIS WARRANTY
This warranty entitles you to repairs or replacement (at no charge) of any parts of the NJ Phillips Banana Tree Injector ("Product") found to be defective in materials or workmanship. Repair or replacement is at the option of NJ Phillips Pty Limited ("Company") or its authorised agent. This warranty is in addition to any rights and remedies extended to the owner under applicable laws, and is not intended to negate or restrict such rights and remedies

except where it is competent to do so.
WHAT IS NOT COVERED BY THIS WARRANTY
Repair or replacement under this warranty is not available for faults or failure due to:
• ordinary wear and tear;
• accident, contamination, misuse, neglect, abuse or tampering;
• incorrect installation or maintenance;
• failure to follow the Company's warnings, instructions, and recommendations for safe and effective use;
• the fitting or use of faulty, poor quality or incompatible associated parts or components;
• use of the applicator other than for its designed purpose;
• use of the applicator with any product other than products specifically recommended by your stockist/local distributor or NJ Phillips Pty Limited.
Subject to the operation of any laws to the contrary, this warranty does not cover:
• the costs of travelling or transportation of the Product or parts to and/or from the Company or its authorised agent;
• loss of the applicator or parts while in transit to or from the Company or its authorised agent; or
• personal injury, property damage, or economic loss caused by defects in materials or workmanship.

Subject to the operation of any laws to the contrary, this warranty does not cover:
• the costs of travelling or transportation of the Product or parts to and/or from the Company or its authorised agent;
• loss of the applicator or parts while in transit to or from the Company or its authorised agent; or
• personal injury, property damage, or economic loss caused by defects in materials or workmanship.

AS OUR POLICY IS ONE OF CONTINUOUS IMPROVEMENT THE MANUFACTURER RESERVES THE RIGHT TO ALTER THESE SPECIFICATIONS AT ANY TIME. ALL PRODUCTS PRODUCED BY NJ PHILLIPS PTY LIMITED, ARE IDENTIFIED BY A UNIQUE BATCH NUMBER. THIS IDENTIFICATION NUMBER IS AFFIXED TO THE PRODUCT TO ALLOW TRACEABILITY BY THE MANUFACTURER AND MUST NOT BE REMOVED IF PRODUCT INTEGRITY IS TO BE MAINTAINED.



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PM1166 | QL668-R1

BANANA TREE INJECTOR

20ml Manual



PLEASE READ THESE WARNING STATEMENTS BEFORE USING THE APPLICATOR

The applicator, associated equipment, and horticultural chemicals each pose inherent risks to human health and safety if used incorrectly and without appropriate safety precautions.

All owners of the applicator, including employers and self-employed persons, are reminded of their strict obligations to ensure the health and safety of employees and all other persons in the place (ie workplace) in which the applicator, associated equipment, and chemicals are used and stored.

In particular, employers and self-employed persons MUST make appropriate arrangements to ensure safety and the absence of risks to health in connection with the use, handling, storage, maintenance and transport of the applicator, associated equipment, and all chemicals.

Such arrangements include but are not limited to the provision of appropriate protective gloves, clothing, eyewear and respirators, ensuring the applicator, associated equipment and all chemicals are stored at all

times safely out of the reach of unauthorised persons, and ensuring that the applicator and associated equipment is assembled, used, cleaned and maintained strictly in accordance with the directions in this Handbook.

In addition, employers and self-employed persons MUST provide such information, instruction, training and supervision in connection with the use, handling, storage and transport of the applicator, associated equipment and chemicals as is necessary to ensure the health and safety in the workplace of employees and all other persons.

Employers and self-employed persons MUST take particular care to ensure the appropriate instruction, training and supervision of employees and others who are under-age, inexperienced, unskilled and/or have difficulties reading or speaking the English language.

Employers and self-employed persons MUST ensure that this Handbook is kept with the applicator at all times, and that its warnings and instructions are referred to each time the applicator is used.

- As this applicator may be dangerous in the hands of children, it MUST be kept in a safe place, out of the reach of children and to stop use by unauthorised persons.
- Do not place the applicator near any heat source.
- Oil lubricants other than those indicated may damage rubber components in this applicator.
- To avoid damage to any plant material, careful inspection of the applicator before use is important.
- Setting of the applicator dose levels, and use of the products should be carried out in strict accordance with the manufacturer's administration instructions, otherwise injury to plant material may occur, and the health of the applicator operator may be at risk.
- Components in this applicator may be affected by some commonly used farm chemicals. No responsibility or liability will be accepted by the manufacturer, should the applicator be used with any product other than the chemicals recommended by your stockist/local distributor or NJ Phillips.
- When the applicator is used for the treatment of plant material:
 - Gloves must be worn at all times by the applicator operator.
 - The operator MUST avoid body contact or inhalation of the product or chemicals. Otherwise injury to the health of the applicator operator may occur.
 - Care must be taken to ensure the draw off cap, feed tube and spring are firmly secured to the backpack to prevent leakage of its contents. Otherwise injury to the health of the operator may occur.
 - Care must be taken to ensure the chemical manufacturer's instructions and material safety data sheets (MSDS) or any other product or health or safety information are followed in regard to safe use and storage of chemicals, otherwise injury to the health of personnel and/or plant material may occur.

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INTRODUCTION

The applicator is designed for the administration of certain chemicals within the applicator's dose range, specifically for the use in Banana Trees.

As some components are not compatible with solvents present in certain other chemicals, the manufacturer will accept no responsibility for the consequences should the instruments be used for any purpose other than that intended.

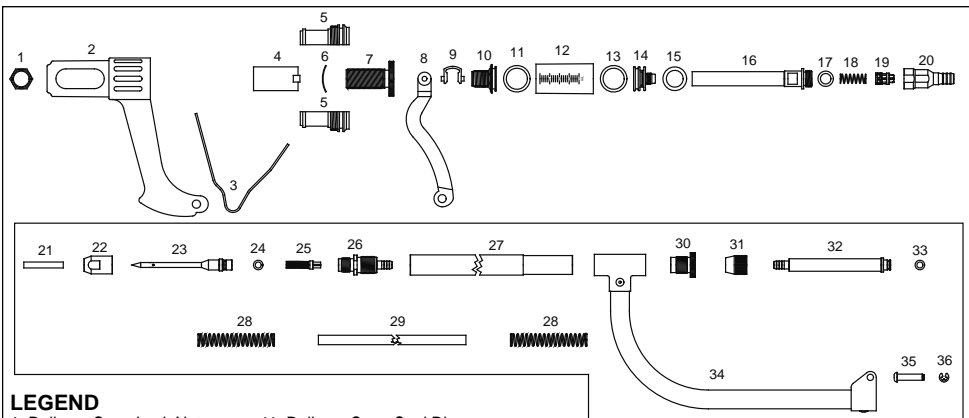
To ensure continued high performance from the applicator, attention to cleanliness is essential. Cleaning and care instructions must be adhered to.

The **WARNING STATEMENTS** covering use of this applicator, **MUST** be read and applied prior to use of the applicator by the operator.

All products produced by NJ Phillips Pty Limited, are identified by a unique batch number. This identification number is affixed to the product to allow traceability by the manufacturer and must not be removed or claims may not be able to be processed.

As our policy is one of continuous improvement the manufacturer reserves the right to alter these specifications at any time.

EXPLODED DIAGRAM 20ml MANUAL APPLICATOR



LEGEND

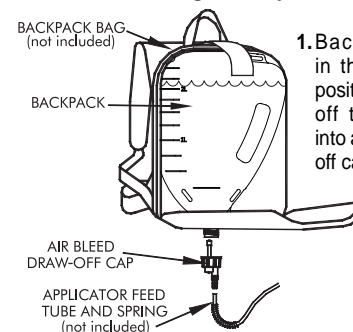
- | | | | |
|--------------------------------|-----------------------------|-------------------------------|------------------------------|
| 1. Delivery Cage Lock Nut | 11. Delivery Cage Seal Ring | 22. Nozzle Spear Tip Adaptor | 30. Threaded Lock Sleeve |
| 2. Handle | 12. Cylinder | 23. Nozzle Spear | 31. Nozzle Lock Nut |
| 3. Return Spring | 13. Piston O-ring | 24. Seal Ring | 32. Nozzle Cylinder Link Rod |
| 4. Dose Adjuster Sleeve | 14. Piston | 25. Assembly Valve and Spring | 33. Seal Ring |
| 5. Body Plug | 15. Lubricating Washer | 26. Nozzle Link Rod Adaptor | 34. Handle Guard Assembly |
| 6. Dose Adjuster Washer Spring | 16. Push Rod | 27. Nozzle Tube Cover | 35. Handle Pin |
| 7. Dose Adjuster | 17. Push Rod Seal Ring | 28. Feed Tube Spring | 36. Clip |
| 8. Lever | 18. Delivery Valve Spring | 29. Tube Adaptor Spear Nozzle | |
| 9. Lever Pad | 19. Delivery Valve | | |
| 10. Delivery Cage | 20. Inlet Adaptor | | |

SPARE PARTS KITS

Kit No.	Part Name	Includes Illustration No.
WX1570	Major Service Kit	11,12,13,14,15,17,18,19,24,25,33.
WX1569	Minor Service Kit	11,13,14,15,17,18,19,24,25,33.
WX1567	Spear Replacement Kit	21,23,24,25.

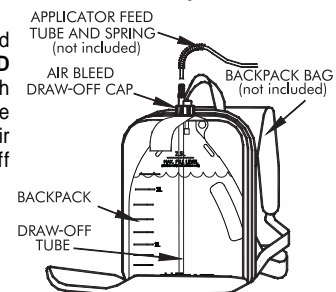
BACKPACK & BAG

This schematic diagram only covers the NJ Phillips back-pack and air bleed draw off system.



1. Backpack used in the **UPRIGHT** position, with draw off tube pushed into air bleed draw off cap.

2. Backpack used in the **INVERTED** position, with draw off tube removed from air bleed draw off cap.



PRIMING THE APPLICATOR

- Set the dose of the applicator to maximum.
- Place the end of the feed tube into the container of product.
- Carefully place the spear into the grommet of the priming bottle. (Figure 1 and 2).
- Whilst holding the priming bottle vertical operate the applicator to expel all air from the cylinder. Ensure firm pressure is maintained in the grommet so no leaking occurs. (Figure 3)
- The excess product will flow back to the container.
- Remove the spear from the priming bottle and set the applicator to the required dose.
- Rinse the priming bottle and feed tube with water when finished.

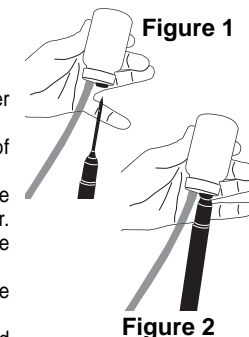


Figure 1

Figure 2

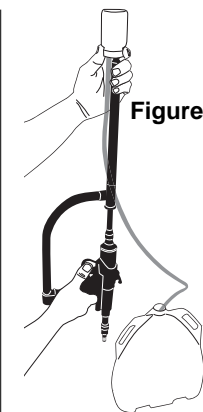


Figure 3

Priming Bottle —
order code: WX1566

CARE AND MAINTENANCE OF APPLICATOR

To ensure continued high performance from the applicator, attention to cleanliness is essential, both for the protection of the user and plant material. On completion of each use of the applicator and feed tube **MUST** be thoroughly cleaned in accordance with the following procedure.

WARNING: For the protection of the operator, gloves must be worn at all times whilst carrying out this procedure. Also avoid skin, body contact or inhalation of chemicals, which may cause injury to the health of the operator.

- Applicator used with NJ Phillips backpack:
 - Place backpack onto the work bench with the backpack placed in the upright or vertical position, and disconnect both the feed tube spring from the feed tube by turning in a clockwise direction and the feed tube from the draw off cap and place aside.
 - Seal backpack to prevent spillage of any remaining contents.

WARNING: Storage of any remaining contents **MUST** be carried out as stated in the chemical manufacturer's instructions or material safety data sheets or any other product or health or safety information.

water, wipe dry, replace the air bleed draw off cap onto the backpack, and place backpack aside into storage.

WARNING: Particular care **MUST** be taken to ensure all residue of the product has been removed, otherwise injury to the health of the applicator operator may occur from residue contacting the body of the operator or being incorrectly administered to plant material.

- Place the applicator feed tube into a clean container with approximately 1 litre of warm water and 0.5ml of non-corrosive detergent.
- Set dose of applicator to its maximum and draw the solution through the applicator and feed tube by operating applicator a number of times until the applicator cylinder and feed tube are clean.
- Hand wash exterior of applicator, feed tube and springs with a soft brush.
- Flush the applicator and feed tube with clean water and pump dry by operating applicator a number of times.
- Wipe applicator, feed tube and springs dry, disconnect the feed tube from applicator and place aside.
- Immerse the applicator inlet fitting into a small clean container of NJ Phillips Lubricant and draw a small quantity of lubricant into the cylinder by operating applicator several times.