# TECHNICAL ADVICE

## Storage of Applicator During Operation

It is important to understand the operation of your NJ Phillips Pty Limited applicator and the affect the container of product has on the way it functions.

NJ Phillips Pty Limited recommend you follow the diagrams shown below when using your applicator as this will ensure no product is lost when the applicator is being used during application.

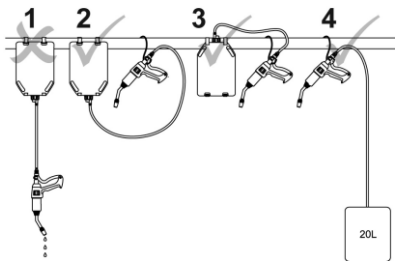


**DIAGRAM 1**

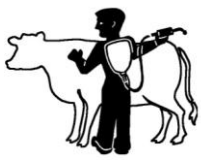

**DIAGRAM 2a**

**DIAGRAM 2b**

**DIAGRAM 3a**

**DIAGRAM 3b**

Your applicator operates with a spring-loaded inlet valve and a spring-loaded delivery valve. The function of the valve spring is to ensure the valve is closed when required, to allow the applicator to function correctly.

The other important part of the applicator is the return spring. The job of the return spring is to return the lever/pushrod back to the start position after you have squeeze the lever when delivering your product. Some of our applicators have adjustable return spring mechanisms and some have a fixed return spring pressure.

Regardless of the type of return spring style there are many factors that can influence and change the functionality of the applicator while in use.

### IN USE

The position of the container of product plays a huge part in how fast your applicator will refill between doses. Likewise the size of the container and the draw off spike/cap and feed tube also play a huge role.

As shown in diagram 2b & 3b, the placement of a large container on the ground will require the applicator to draw the product from below the hand piece, thus the applicator is working hard to draw the fluid vertically.

If, as in diagram 2a & 3a, the container is on the users back in either the upright or inverted position, the 'head pressure' of the fluid helps to push the fluid through the feed tube and allows the applicator to fill more efficiently.

The trade off with the applicator at the same level as the container is that 'spit' may increase at the end of your delivery. 'Spit' is the small amount of product that sits around the delivery valve after each dose is delivered. The higher the container the more potential there is for spit.

Your applicator has been designed to operate at the same height as the container, so in normal use, functionality is maintained.

So in summary, try to position your container at the same height of the applicator when using a standard feed tube such as the one supplied with the applicator. If you are drawing from a large container on the ground, try to use a larger internal diameter feed tube so as to draw the fluid into the applicator as efficiently as possible, and if you need to, cut the feed tube to the length that best suits your application situation, this will also allow the applicator to re-fill more efficiently.


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## STORING THE APPLICATOR DURING OPERATION

It is important to understand where the applicator is going to be left when still attached to the container of product via the feed tube but not in use. The most important issue is 'Head Pressure'. That is the weight of the product, i.e.: a full 5lt container weighs around 5kg, so it is this amount of pressure being forced down the feed tube when the container is just higher than the applicator. The higher the container, the greater the force exerted on the fluid path into the feed tube and onto the inlet and delivery valve.

It is important to understand that the inlet and delivery valve springs are designed to allow for the most efficient functionality of your applicator. If the valve springs are too strong then the force required to discharge the product will be too great and lead to user discomfort. Likewise, if the valve system is too weak the product will easily force the valves open under normal use and leak out the front of the applicator.

The other situation that can occur is if the applicator is left 'dangling' from the length of the feed tube is the fluid will siphon through the feed tube and can leak onto the ground as per Diagram 1 / Fig 1.

It is best practice to ensure you store or hang the applicator during use as per Diagram 1 / Fig 2, 3 or 4.

## SUMMARY

Always be mindful of where your container is situated in relationship to the applicator. The higher the container, the easier the applicator will refill but your 'spit' maybe larger.

Do not let the applicator 'dangle' or sit on the ground when not in use, as product may leak from the system.

Ensure the feed tube does not become 'kinked' during use, as it will slow down the re-fill of the applicator and reduce the return speed of the lever. Always fit and use the feed tube springs when supplied, as they reduce the chance of the feed tube 'kinking' at the container spike/cap end and the inlet fitting end of the applicator.

Temperature will play a part in the refill rate as the colder the air temp the more viscous the product will become.

The length of the feed tube? Remember that your NJ Phillips Pty Limited applicator is supplied with a 'standard' length feed tube and you can cut it to suit your application. The shorter the tube, the less distance the product has to travel = a faster refill time.

Your NJ Phillips Pty Limited applicator has been manufactured to a high standard and the instructions that came with your applicator must be followed to ensure you set up the applicator correctly. If something does not seem right, we advise you stop and consult the leaflet. If all else fails call NJ Phillips, send us an email or check the Information Guides and Video section of our website njphillips.com


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