

QUIK-jet Micro-Injection System

Training Manual



Revision Date: 11/12/07



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Introduction to Arborjet's QUIK-jet Micro-injection

QUIK-jet's speedy delivery in fast uptake trees allows the applicator to work effectively and profitably in a variety of situations. When there is ample moisture, low volume injections with the QUIK-jet are a breeze on ring porous oaks and diffuse porous maples. With high insect pest infestations on trachied or evergreen trees, a customized reservoir system is used allowing hundreds of trees to be treated in a short period of time.



For customer assistance, call from 8 am to 4:30 pm EST Monday through Friday at 1-866-272-6758 or visit the website at www.arborjet.com. Arborjet welcome your comments, questions and suggestions concerning QUIK-jet and injectable products.



Parts of the QUIK-jet Pro Kit

QUIK-jet Kit 070-2250



QUIK-jet Kit – 070-2250 QUIK-jet Pro Kit – 070-2260



070-2230

QUIK-jet Tool Kit

• Arborplug Set Tool Re-order 2 pack – 070-0120

• Drill Bit Kit

2 pack - 010-4040

 Needle Clean-out Tool Kit 2 pack - 070-0130

> Safety Glasses 975-00084

QUIK-jet 250mL cylinder – 975-00134

QUIK-jet Funnel – 975-00098

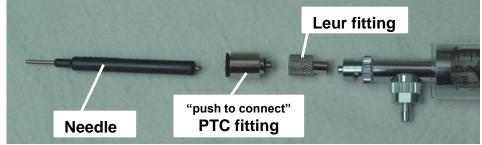
QUIK-jet Hook – 975-00128

QUIK-jet Bottle Holder Clip – 975-00126

CLEAN-jet 500mL-Re-order 1Liter - 030-2030

975-00132

QUIK-jet Assembly and Setup





Connect Leur to "Push to Connect" (PTC) fitting



Connect Leur and PTC fitting to QUIK-jet device



Push Needle into "Push to Connect" (PTC) fitting





PTC fittings use a 5/16" hex tool for installation and removal.



Attach Supply Line to QUIK-jet device

QUIK-jet Assembly and Setup



Attach Bottle Clip to QUIK-jet bottle



The Bottle Clip is used with Holster, belt, or belt loop.





Clip the QUIK-jet Hook to Holster, Belt, or Pants



Use plastic guard to protect Glass Barrel - 975-9446

3 Easy Steps for QUIK-jet



1. DRILL



2. PLUG



3. INJECT





QUIK-jet in use

Prepare the QUIK-jet for Micro-injection









- Measure tree diameter in inches, at chest (breast) height by using a diameter tape, or measure circumference and divide by 3.
 DBH" = Diameter at Breast Height in inches.
- Read product label and use DBH" to determine total injection volume for entire tree project. Add all the tree injection volumes. (ex.16" tree x 4mL/DBH" = 64mL. If your treating 10 trees at 16" each; Add 640mL to the QUIK-jet bottle)
- **3. Measure volume** in graduated cylinder.
- **4. Pour** into QUIK-jet bottle using screw-on funnel.
- 5. Fasten QUIK-jet Top



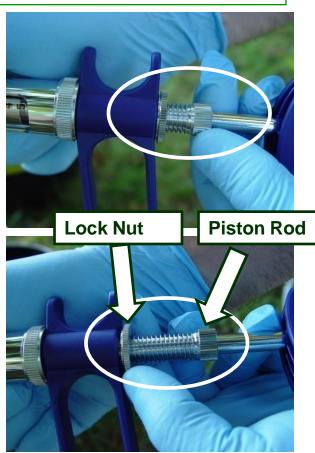
Adjust the QUIK-jet Dose Chamber

Adjust the dose chamber to desired mL dose size. (1-5mL per trigger push)

Spin the piston rod to adjust the dose chamber, and use the lock nut to secure in place







Prime the QUIK-jet Dose Chamber







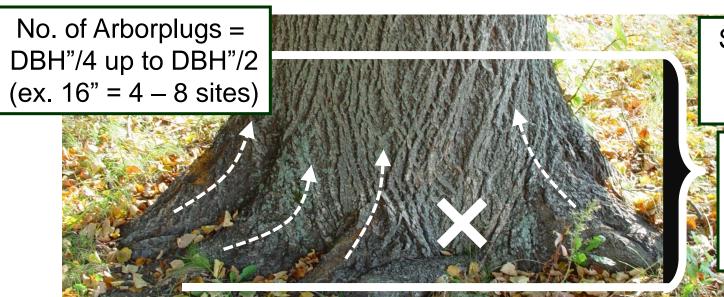


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NOW QUIK-jet is PRIMED AND READY.

- 1. Press trigger several times until formulation reaches the dose chamber.
- 2. Point needle upward to bring air bubble upward, and slowly press trigger until air bubble leaves the chamber.

Select Arborplug™ Sites

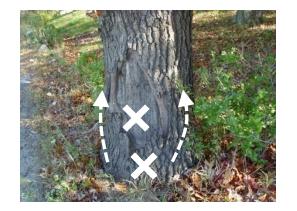


Sites are within 36" above the soil line.

The Best Arborplug Injection Zone

Root Flares show best uptake and formulation distribution to the canopy.

Choosing good Arborplug sites result in faster injections.



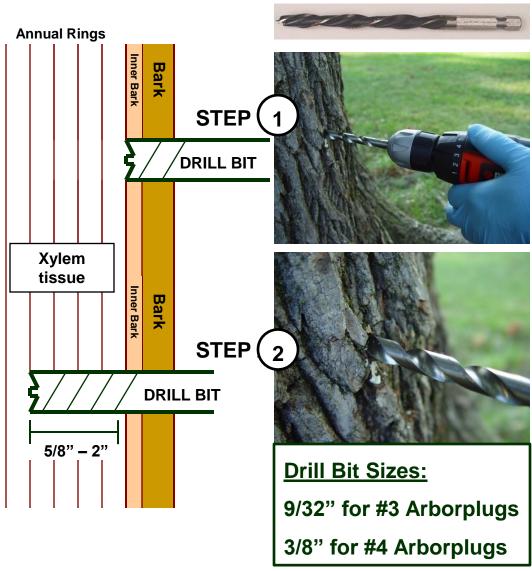






- Use sharp, high-helix brad-point drill bits (included in kit).
- For Beginners: Drilling in 2 Steps:
 - 1. Use very light pressure to drill through outer bark and inner bark. The drill bit will stop at the Xylem. You can remove drill bit to note the bark thickness.
 - 2. Use quick heavy pressure to drill into the Xylem.

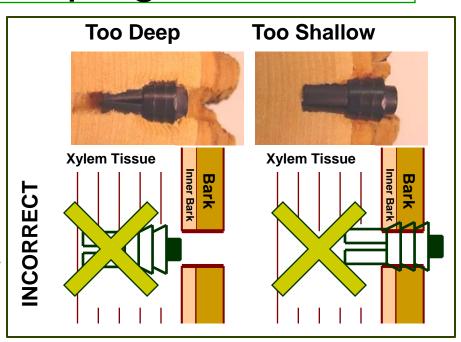
Estimated Drill Depth into Xylem: Hardwoods – 5/8" – 1 5/8" deep Conifers – 1 5/8" – 2" deep

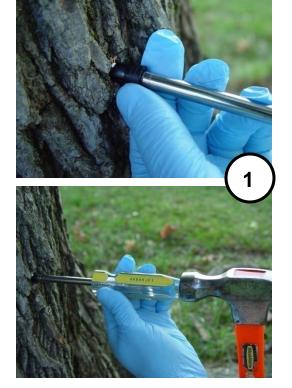


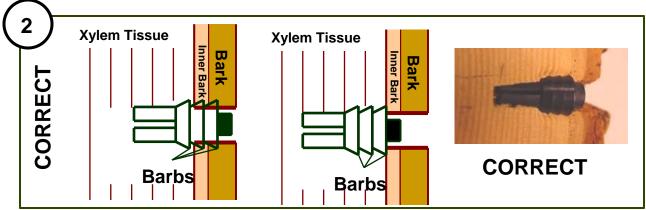
Set the Arborplugs



- 1. Set Arborplugs into drilled holes using set tool (from kit) and hammer.
- 2. Make sure the barbs on the Arborplug make a seal between the xylem and the inner bark as illustrated.







Procedure: Conifers vs. Deciduous



Important Note For Conifer Injections:

Sap flows out of conifers as a protective response to drilling.

For best results, make sure the QUIK-jet is inserted and the micro-injection occurs right after the Arborplug is set. Drill, plug, and inject 1 site at a time. If too much time has passed between Arborplug setting and QUIK-jet application, sap may flow into your injection site, and make your uptake slower.



Important Note For Deciduous Injections:

No sap flows from deciduous trees after drilling.

QUIK-jet micro-injection can occur after each Arborplug is set, or after all Arborplugs are set in the tree.



Micro-injection with the QUIK-jet







- 1. Determine mL dose per injection site (per Arborplug)
- 2. Insert needle and push trigger to apply dose.
- 3. Keep an even LIGHT pressure when pushing trigger.
- 4. Repeat even dose / injection site until entire dose is in the tree.

NOTE: Putting excessive heavier pressure on the trigger will NOT likely advance the dose more quickly.

Clean Out QUIK-jet







OR

Before Clean-out: Make sure all product is out of QUIK-jet bottle and lines.

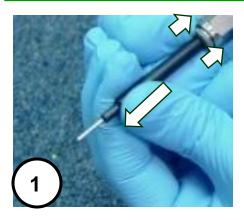
CLEAN-jet is for rinsing formulation residues and to keep your QUIK-jet operating smoothly.

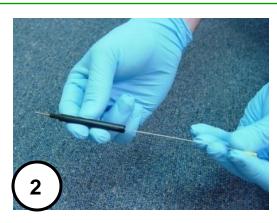
- 1. Remove bottle top and add CLEAN-jet (about 30mL is good) (or rubbing alcohol)
- 2. Apply bottle top and repeatedly press trigger. CLEAN-jet rinse can be squirted in the soil at the base of the tree, unless specified otherwise on the pesticide product label.* Rinse all CLEAN-jet out of the bottle, line, and device.
 - Small amounts of leftover CLEAN-jet in lines is OK.
 - CLEAN-jet should not be mixed with other formulations.

NOTE: If CLEAN-jet solution is stored inside the QUIK-jet device, be sure to push all CLEAN-jet solutions out of the system before adding formulation to the bottle.

^{*} Dispose of waste according to local and state regulations.

Maintenance





To Clean out any debris in VIPER Needles:

- 1. Remove VIPER Needle by pushing the compression fitting in and pulling on the Needle.
- 2. Push the VIPER Needle Cleanout Tool into the VIPER Needle.



If ball valves are sticking, add some oil or silicone, and press trigger several times.

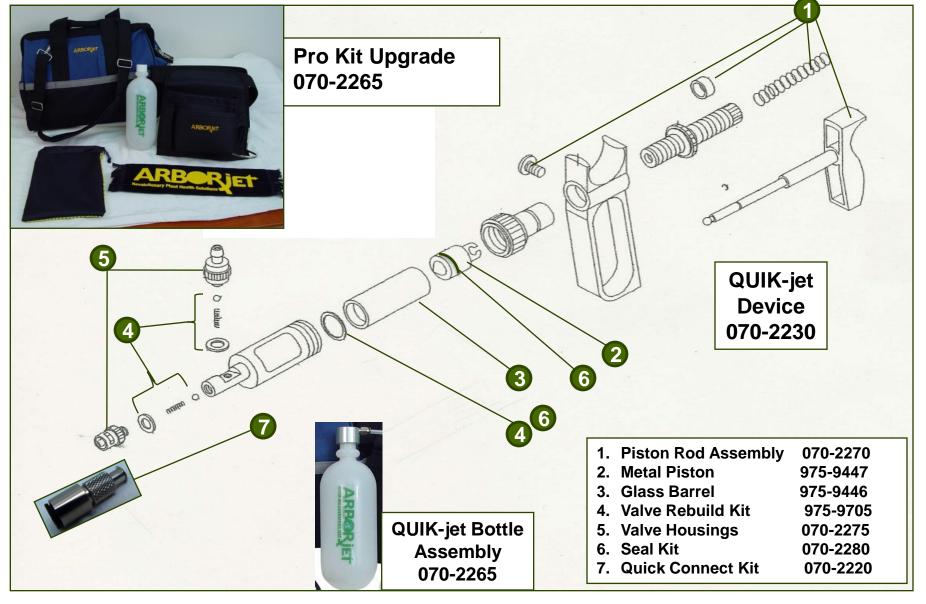
Make sure to keep device clean by using CLEAN-jet or rubbing alcohol



Piston O-ring may need replacement over time.



QUIK-jet Device Parts





Troubleshooting: Ball Valve

If QUIK-jet device will not push formulation out, ball may be stuck closed.

If QUIK-jet device will not prime and has a weak draw of formulation, ball may be stuck open.

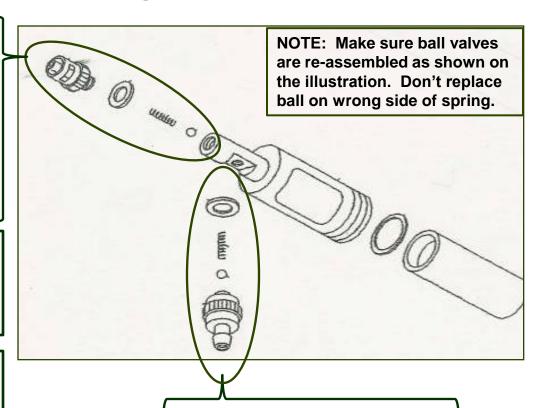
Using CLEAN-jet after device usage will keep ball valves clean.



Ball valves can be lubricated by removing the tubing, and adding a small amount of oil or silicone to the in-take valve housing.

CAUTION:

Ball Valve assemblies contain small parts. Disassemble these parts over a bowl or cup so small ball and spring won't be lost.



If QUIK-jet device will not draw formulation up, ball may be stuck closed.

If QUIK-jet device pushes formulation back into bottle, ball may be stuck open.



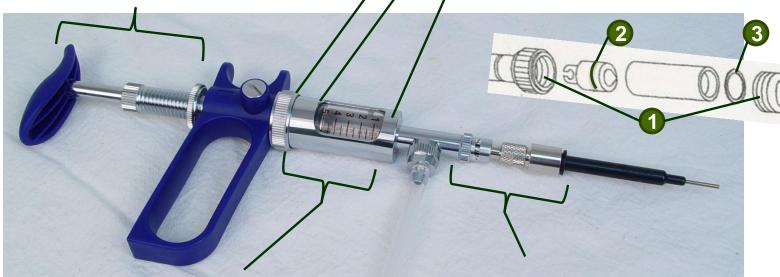
Trouble Shooting

If Trigger Handle is not fully released:

- Manually pulling back may help
- •Ball Valves may need cleaning.
- (see Troubleshooting: Ball Valve)
- Internal spring may need replacement

If Leaking Occurs:

- 1. Make sure steel and glass barrel are snu
- 2. Piston O-ring (internal) may need replacement
- 3. Piston O-ring (internal) may need replacement # 070-2280



If Dose Chamber is not Filling or Pushing Formulation

•Ball Valves may need cleaning. (see Troubleshooting: Ball Valve)

If Leaking Occurs:

- •Needle may not be all the way in.
- PTC fitting may not be snug
- Valve assembly may not be snug



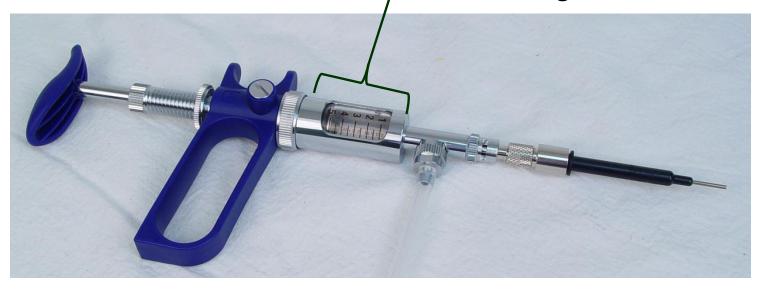


If Blue Handle Doesn't Line Up with **Input Valve Housing:**

 Loosen screw and reposition blue handle

If 1-5mL graduations can't be read:

 Loosen steel barrel, adjust glass barrel, and tighten steel barrel.





QUIK-jet Tips and Cautions

- Daily cleaning and regular maintenance are critical for consistent QUIK-jet operation.
- Do not over tighten fittings. Fittings should be just more than hand tight.
- Ball Valve assemblies contain small parts. Disassemble these parts over a bowl or cup so small ball and spring won't be lost.
- Apply Oil or Silicone to ball valve assemblies to keep them working properly.
- Apply light to moderate pressure on the QUIK-jet device. Prolonged use or applying excessive pressure may cause soreness. Consider an alternate Arborjet device for these applications.



QUIK-jet Tips and Cautions

- Always follow the formulation label for required personal protective equipment
- Never point the Arborjet needle toward yourself or anyone else
- The QUIK-jet uses a Glass Injection Barrel. Use caution when using or storing the device
- Do not store device loaded with formulation and follow proper cleaning and disposal instructions
- DO NOT over tighten fittings. The Leur fitting should be removed when assembling it to the "push to connect"