



## Rejuvenation Instructions Quick Disconnect Injection Tool Installation & Removal

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- Ultrinium<sup>™</sup> sustained pressure injection method (U.S. Patent 7,615,247)
- Ultrinium<sup>™</sup> formulation optimization injection method (U.S. Patent 7,611,748)
- Injection Adaptor (U.S. Patent 7,195,504 and 7,538,274)
- Perfectium<sup>™</sup> single switch injection (U.S. Patent 7,353,601)
- Predicting performance of Electrical Power cables (patent pending)
- Formulation of Ultrinium<sup>™</sup> & Perficio<sup>™</sup> components (patents pending)
- N-Rex<sup>™</sup> submarine cable injection process (patent pending)
- N-Ter<sup>™</sup> injection or Novinium thermally enhanced rejuvenation (patent pending)
- Reticular Flash Preventer (RFP) provides safer operation of conventional injection elbows (patent pending)

Version 20100607

## Quick Disconnect Injection Tool – Live-front Applications



Caution: Working around energized high-voltage systems may cause serious injury or death. Installation should be performed by personnel familiar with good safety practice in handling high-voltage electrical equipment. De-energize, test and ground all electrical systems before installing Injection Adaptors.



**DANGER**

All apparatus must be de-energized during installation of part(s). Removal must be done using a hotstick.

Do not energize the injected cable before reading this NRI in its entirety.

Do not touch or move energized products by hand.

Inspect parts for damage, rating and compatibility with mating parts. This product should be installed only by competent personnel trained in good safety practices involving high voltage electrical equipment. These instructions are not intended as a substitute for adequate training or experience in such safety practices.

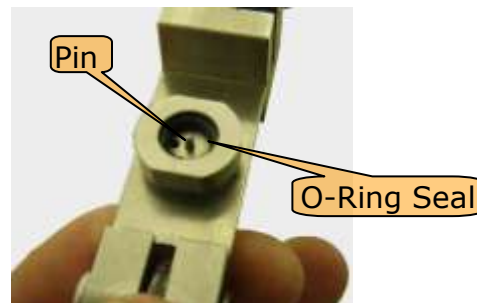
Direct or close proximity contact with any of the following in an energized system can result in electric shock, which will cause serious or fatal injury: Injection Adapter, Quick Disconnect Injection tool, tubing, tank, cable, fluid injection tube, and fluid injection collection containers and fittings.

If fluid has been injected into the cable, there may be considerable pressure, which will release when the quick disconnect injection tool is removed. Always wear approved eye protection when installing or removing this tool.

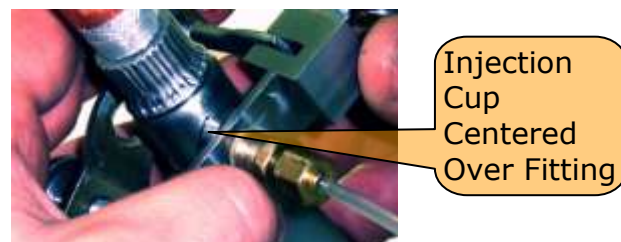
These instructions do not attempt to provide for every possible contingency.

Failure to follow these instructions could result in damage to the product and serious or fatal injury.

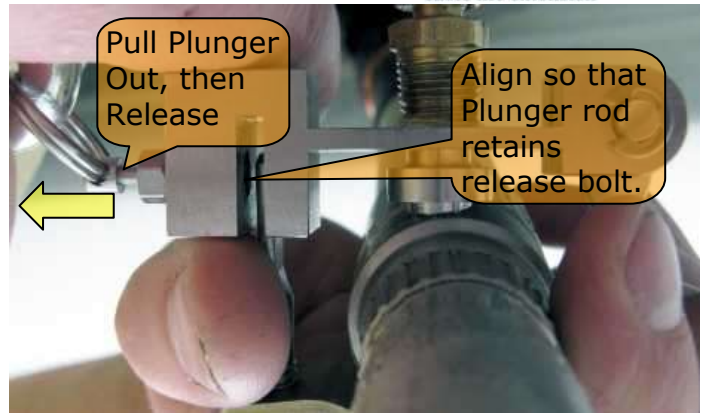
1. Inspect the QD injection cup to ensure that the O-ring seal is present and does not show any signs of damage.



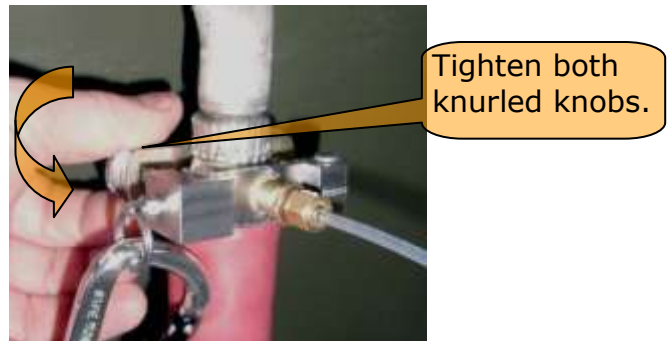
2. Position the Quick Disconnect injection tool around the IA with the injection cup centered over the quick disconnect fitting, then press the pin into the quick disconnect fitting.



3. While holding the tool in position, pull the spring plunger straight out. Move the release bolt so that it is in the slot, and the tool is around the IA. Align the hole in the release bolt with the rod of the plunger, so it will hold the release bolt in position. Allow the plunger to slide in so that the release bolt is retained.



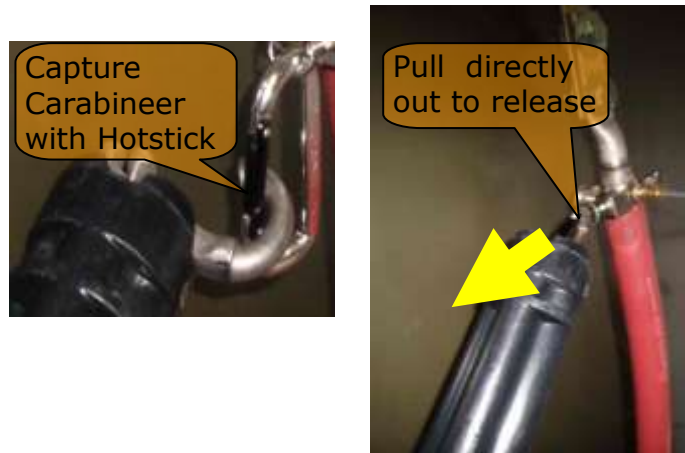
4. Tighten knurled knobs evenly. Do not over tighten. Do not use tools. Avoid applying torque to the IA. The Injection tool must be square to the ends of the IA.



5. Inject the cable per NRI 60: Tailored Injection.



6. After injection is complete, use a hotstick to pull directly out on the spring plunger by means of the carabineer. The Quick Disconnect Injection Tool will come free.



7. Remove Quick Disconnect Injection Tool from livefront. Use caution to avoid contact with energized parts. The injection is now complete.



Use Hotstick  
to remove  
QDIT.