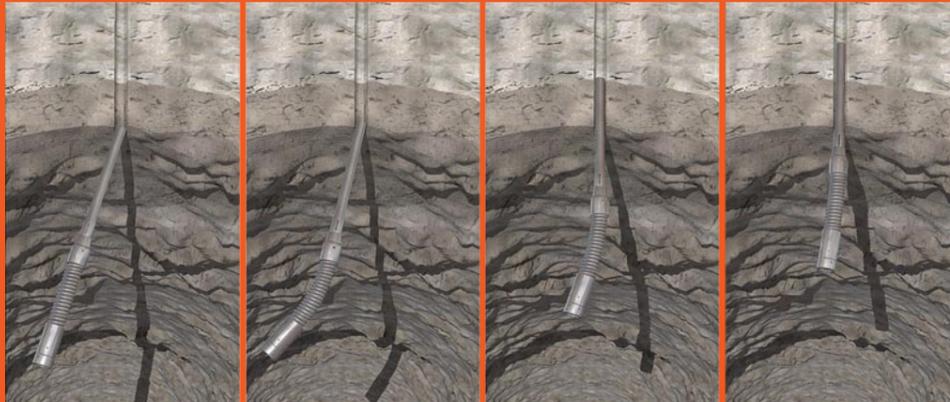


# Revolutionary Spring Design

The Trajectaflex Resin Firing System's **REVOLUTIONARY SPRING DESIGN** allows the nozzle to **FLEX** and **SELF INDEX** into the bolt hole. This **SIMPLE** concept increases operator **SAFETY** whilst **IMPROVING** bolting cycle times.



Mesh or Fibre Crete are no obstacle for the Trajectaflex Resin Firing System

#### Testimonial

Wilco Technologies supplied and fitted the Trajectaflex Resin Firing System to an Atlas Copco 104 single boom jumbo at one of our mining operations.

Ground conditions called for "in cycle" shotcrete to 50mm with fully encapsulated 1.8m resin bolts for final ground support. We have found this resin firing system to be a robust, quick and reliable method of installing resin cartridges. With the "single pass" boom motion and ease of hole location we can save approximately 30-40 minutes in our bolting cycles

compared to other "plastic tube" installation systems we have used on site. Recent independent pull test results confirm that bolts installed correctly using the Trajectaflex system have performed in line with expectations.

Wilco Technologies have provided excellent back up service and operator training with this system, making it a very cost effective method of installing resin bolt cartridges.

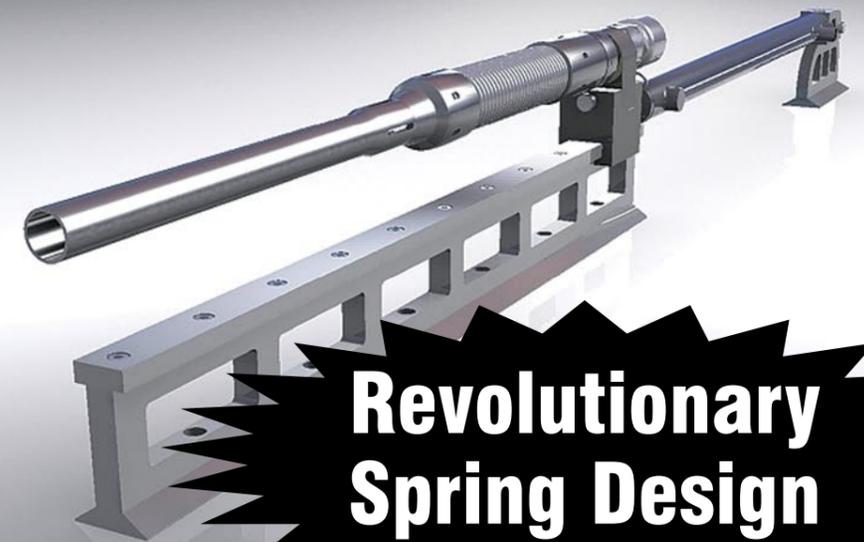
*D M Dryburgh Underground Supervisor  
GBF Tanami Pty Ltd*

# Trajectaflex

## Resin Firing System

### FOR MINE STRATA CONTROL

The  
**SAFE**  
**SIMPLE**  
**EFFICIENT**  
solution to  
resin capsule  
installation  
for resin set  
bolting.



## Revolutionary Spring Design



[www.wilcotechnologies.com.au](http://www.wilcotechnologies.com.au)

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**Trajectaflex**  
Resin Firing System  
FOR MINE STRATA CONTROL



Wilco Technologies is focussed on providing innovative solutions to the mining sector. Our aim is to supply quality products that provide our clients with effective solutions for underground strata control.

The **Trajectaflex Resin Firing System** was first trialled at BHP Billiton's Olympic Dam mine site in February 2005.

**Efficiency** and **safety** were key drivers to improving resin set bolting cycle times.

Wilco Technologies draws from 18 years first hand experience in underground hard rock development mining. The managing director, Michael Williams, has a sound knowledge and experience in the field, having been through the full cycle of development mining.

*"Through my experience as a jumbo operator I could see the need for a faster, safer and simplified solution for installing resin set bolts with a development jumbo drill."*

The **Trajectaflex Resin Firing System** has evolved from an initial concept by keeping a simplistic approach to design, which now provides an efficient, low maintenance, user friendly alternative for resin set bolting."

Michael Williams  
(Managing Director Wilco Technologies).

## Trajectaflex\*

### Resin Firing System

#### Introduction

The **Trajectaflex Resin Firing Nozzle** is a steel nozzle designed to shoot a two pack synthetic resin capsule into a pre drilled bolt hole for resin set bolting. It consists of a tension spring with an adaptor at each end, a nylon inner tube and an exchangeable tip with air exhaust slots.

The **Trajectaflex Resin Firing Nozzle** is fixed at the end of the jumbo rail to an independent slide, allowing it to be extended and retracted past the end of the jumbo boom.

Resin capsules are loaded into a manifold located at the operator's platform. The capsules are then shot, with air pressure, via a delivery line along the jumbo boom, passing through the Trajectaflex nozzle and up the pre-drilled hole.

#### Advantages of the Trajectaflex

- Safe and efficient method of installing resin set bolts.
- Installing ground support as you advance forward is easily adhered to using this system.
- The Trajectaflex resin firing nozzle is a single pass system for installing resin set bolts. With a dual boom development jumbo, the bolt hole can be drilled with one boom while the other boom inserts the resin and the bolt.
- Loading resin capsules from the jumbo platform means far less time on and off the machine, reducing operator fatigue and chance of injury.

- Locating the pre-drilled bolt hole using the Trajectaflex nozzle is simplified due to the nozzle's robustness and design. The hole can be probed for without damage to the nozzle.
- With the collar of the pre-drilled hole engaged and a slight boom movement, the nozzle will flex and self index, pushing the nozzle tip up into the hole.
- Checking physically for correct bolt hole alignment is eliminated, therefore reducing the operator's chance of fatigue and injury due to less on and off the operator's platform.
- The need for a jumbo operator's offsider (nipper) is significantly reduced.

#### Maintenance

Downtime is kept to a minimum using the Trajectaflex due to the simplicity of its design. Most components of the nozzle can be unscrewed by hand. Complete disassembly can be achieved within three minutes.

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\*Trajectaflex is a registered trademark of Michael Dene Williams.  
The product has a World Wide Patent pending.

