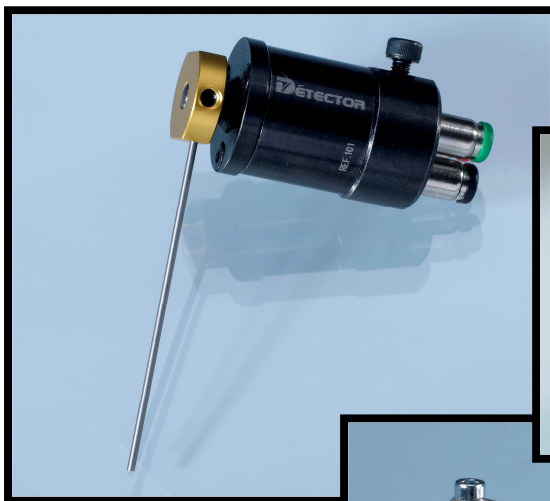
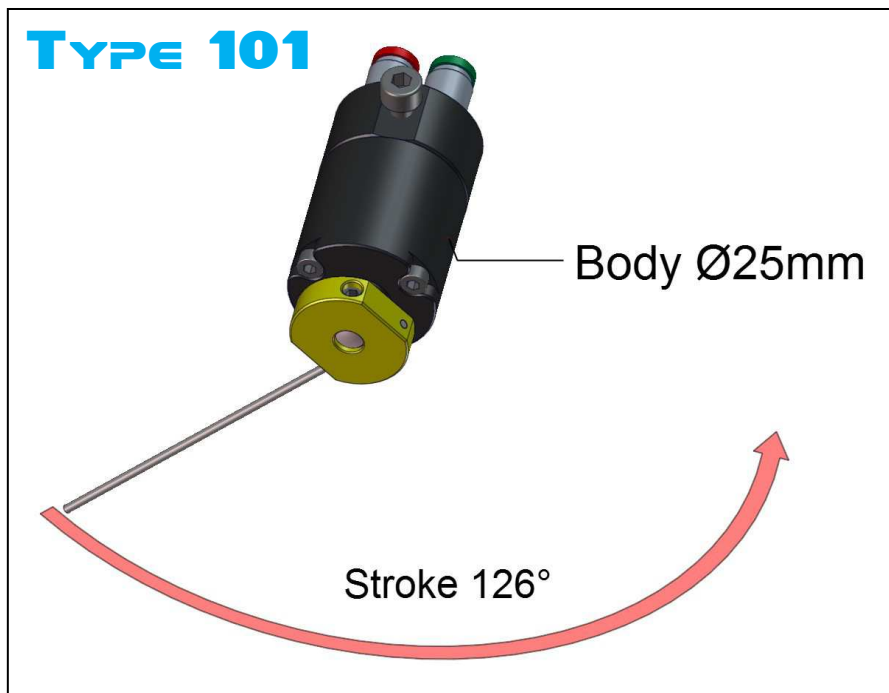


# Installation and user manual for broken tool detector

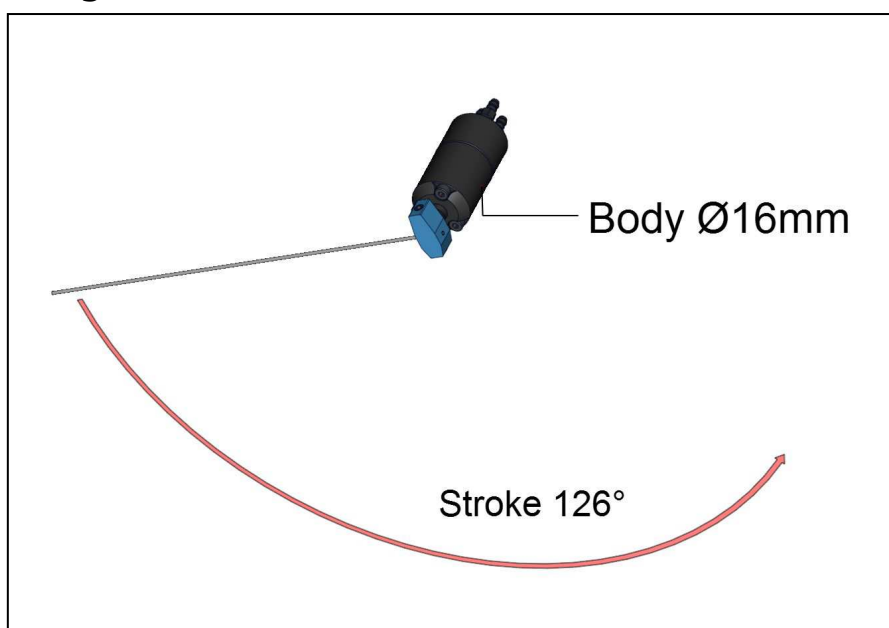


These fully pneumatic devices are designed to detect, by contact with a rod, the presence of a tool. They are suitable for all traditional or CNC machines.

- Type **101** for tools with a diameter greater than 1.5 mm

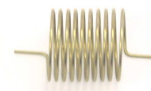


- Type **110** for tools with a diameter greater than 0.5 mm



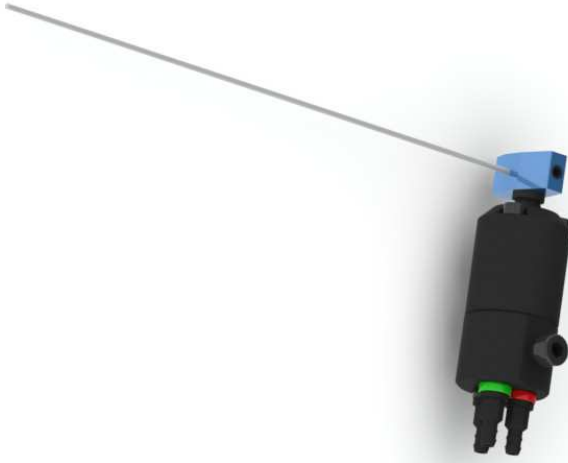
- Rotating version:  
The device is positioned parallel to the axis of the work piece.

- 2 tubes connection:  
1 tube for the cycle end control pulse and  
1 tube for the "Broken Tool" information

**101 COMPLET KIT COMPOSITION**1 body Type **101** or **D101**1 milled fixing rod **101TFF**1 smooth fixing rod **0102TFL**1 tightening yoke **0102NSEVV2**1 pressure switch  
**0102PST**1 additional needle  
**101TPG080**1 reverse rotation return  
spring  
**101RAG** or **101RAD**

## 110 COMPLET KIT COMPOSITION

1 body Type **110** or **D110**



1 milled fixing rod **202TFF**



1 smooth fixing rod **0102TFL**



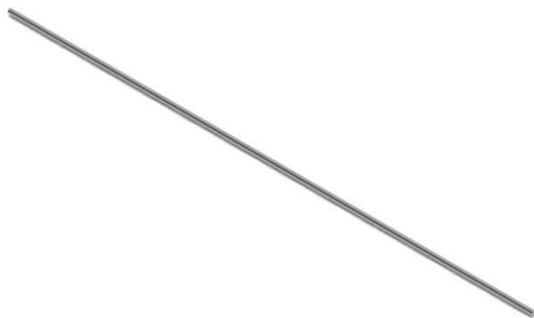
1 tightening yoke **0102NSEVV2**



1 pressure switch **0102PST**



1 additional needle **110TPG120**



1 reverse rotation  
return spring **110RAG**  
or **110RAD**

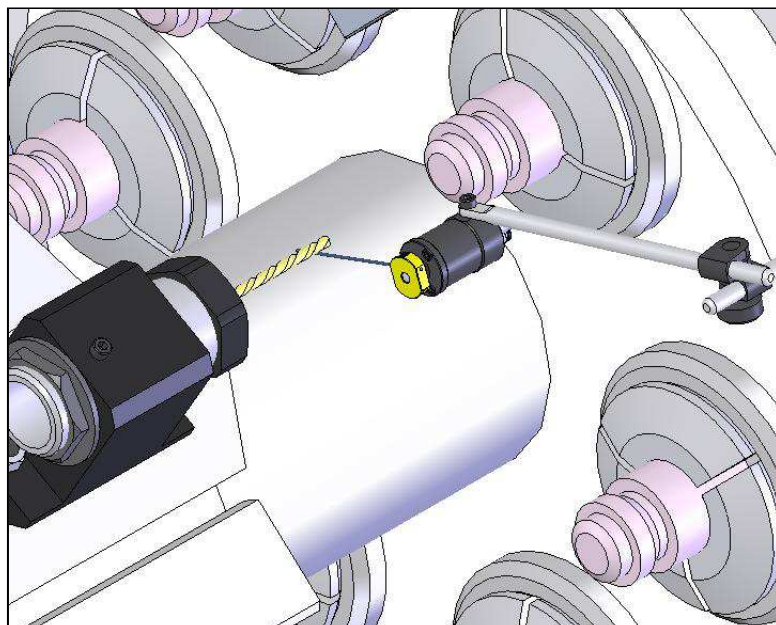


## OPERATING PRINCIPLE 101 / 110

Each time the tool is withdrawn, a pneumatic pulse is sent to the device via a roller valve or a solenoid valve. The duration of the pulse must be approximately 0.2 to 0.5 seconds. This triggers the rotation of the rod support allowing the rod to probe the tool.

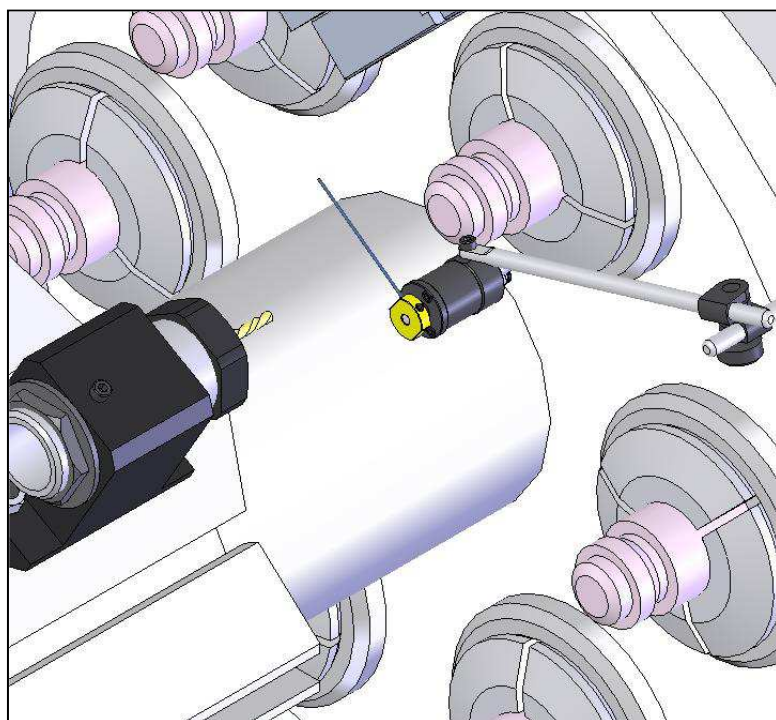
### 1<sup>st</sup> case: The tool checked is not broken

>The needle comes into contact with the tool: no "Broken Tool" information is received. With the ending of the pulse, the needle returns to its initial position (mechanical spring-activated return).



### 2<sup>nd</sup> case: The tool checked is broken

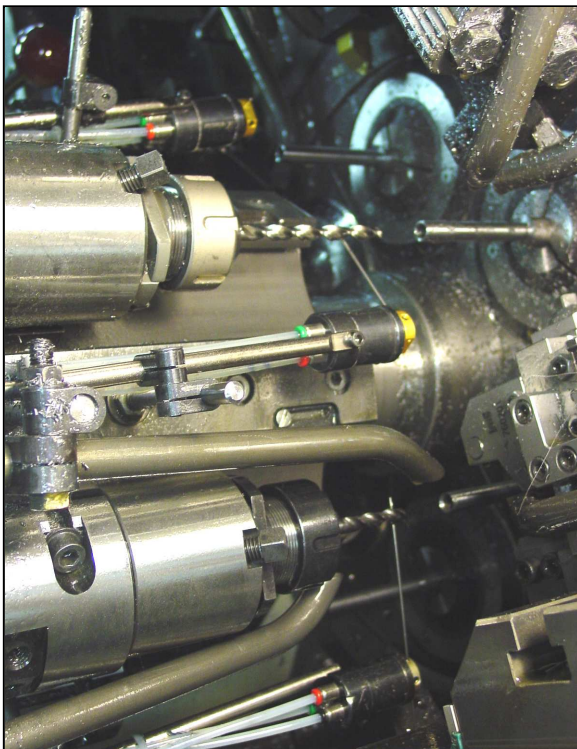
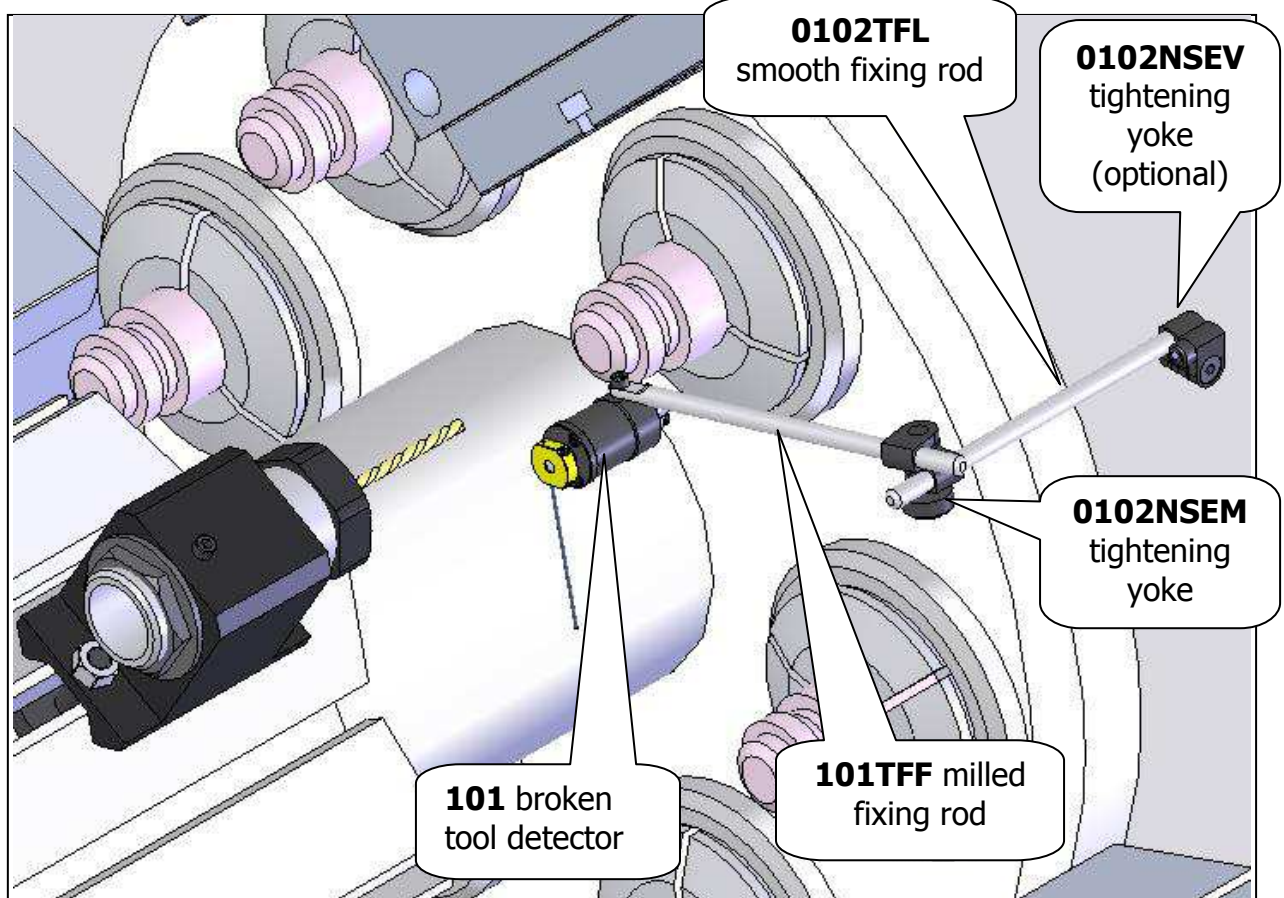
>The needle reaches the end of its stroke. The pneumatic "Broken Tool" information is received by the pressure switch which converts it into an electrical signal to stop the machine.



The detectors do not require any specific lubrication or servicing.



# INSTALLATION AND ATTACHMENT 101/ 110



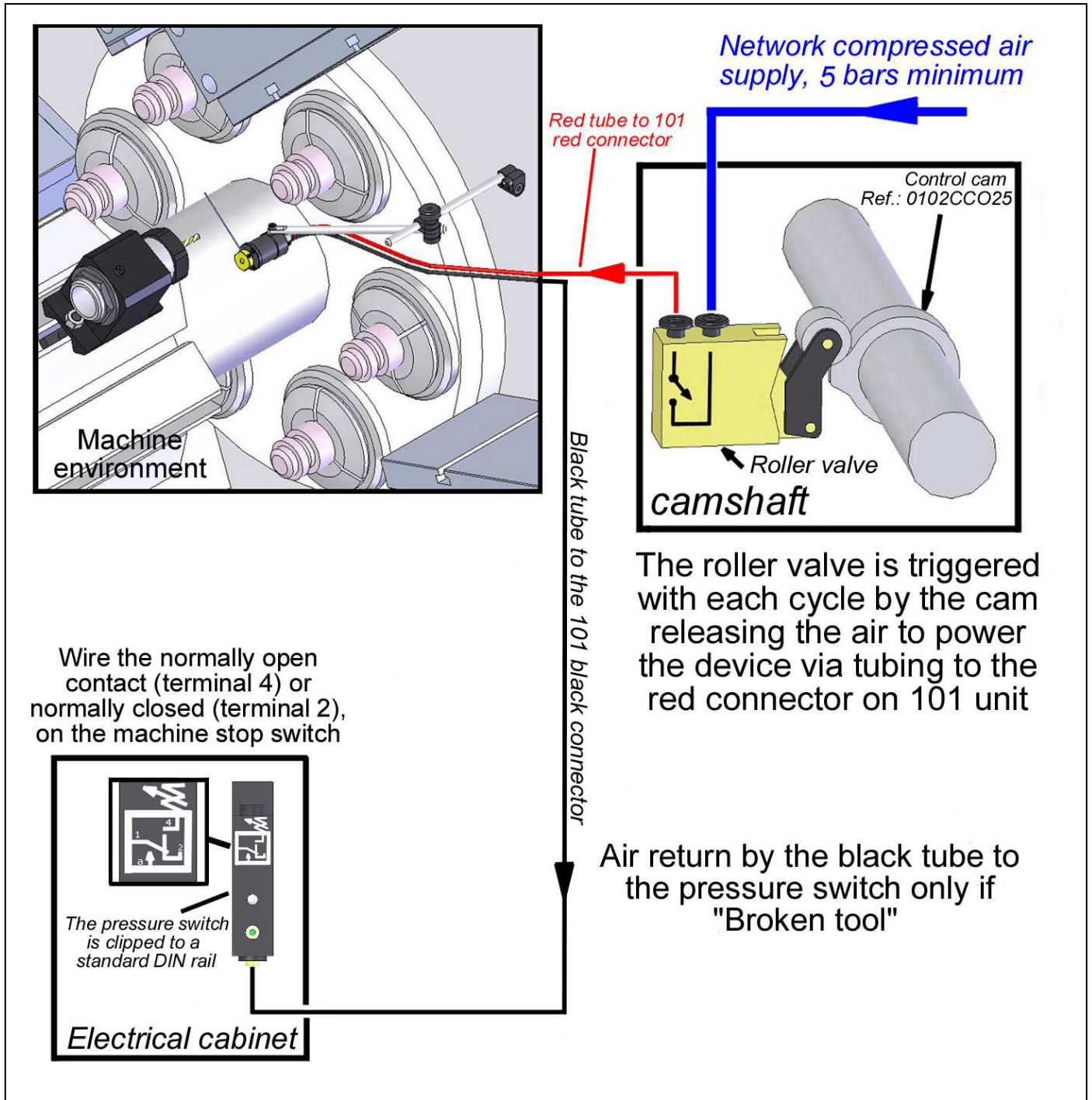
Installation on multi-spindle machine



Installation on transfer machine

## PNEUMO-ELECTRICAL CONNECTIONS 101 or 110 CAM MACHINE

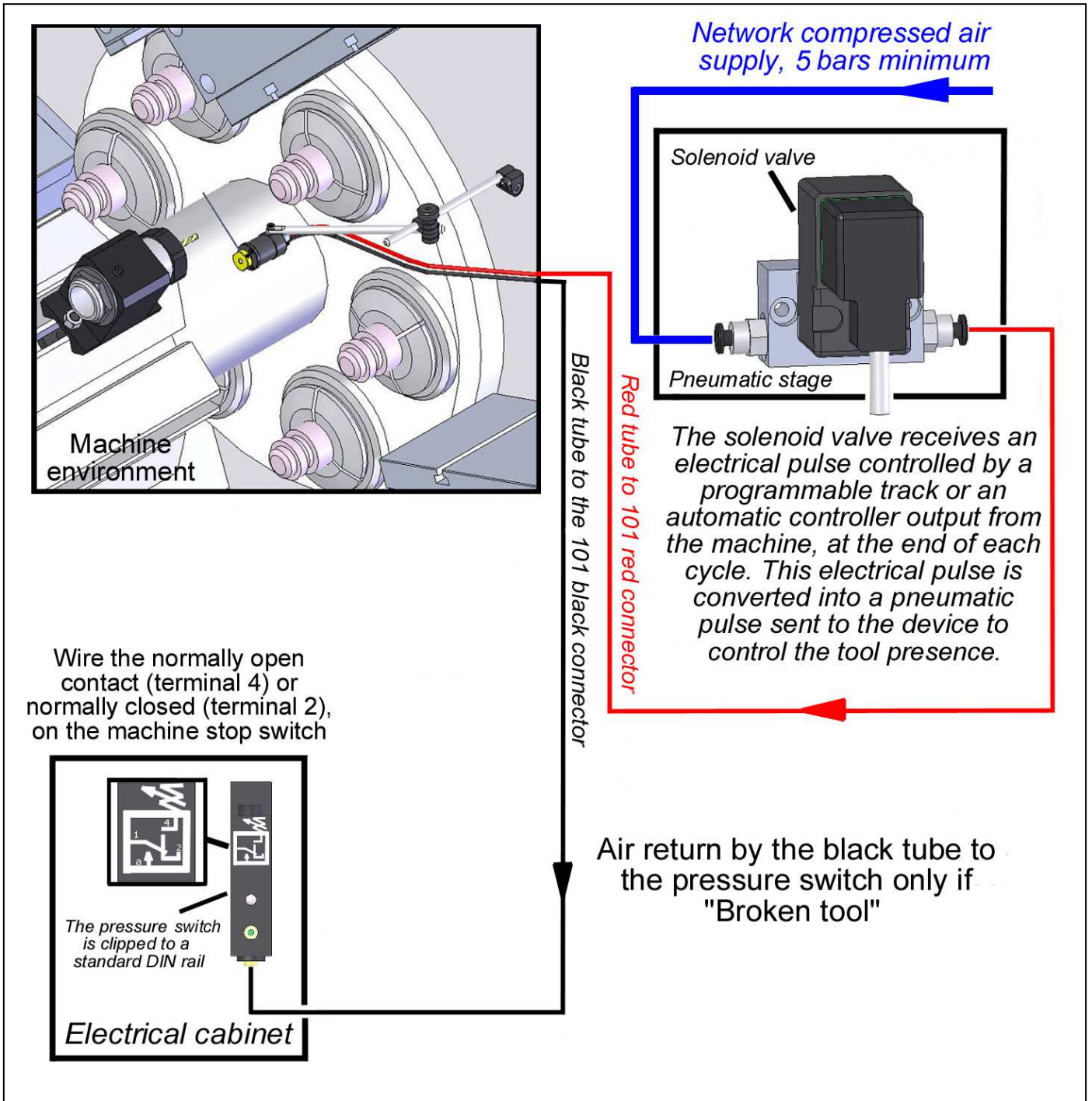
This is how to complete the pneumatic and electrical connections for the **broken tool detector type 101 or 110** on a **traditional cam-based machine**.





# PNEUMO-ELECTRICAL CONNECTIONS 101 or 110 CNC MACHINE

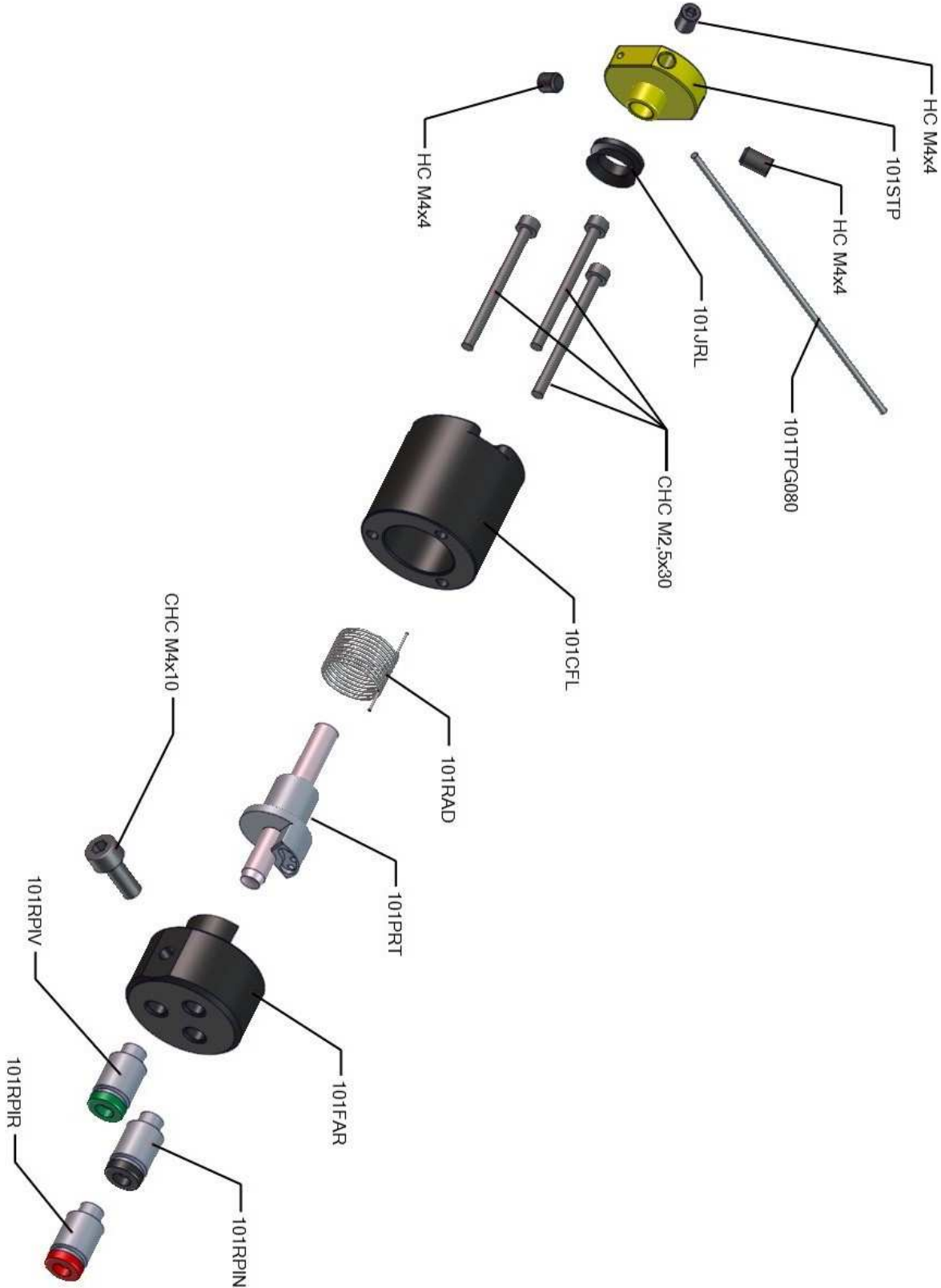
This is how to complete the pneumatic and electrical connections for the **broken tool detector type 101 or 110** on a **computer numerical control (CNC) machine**.



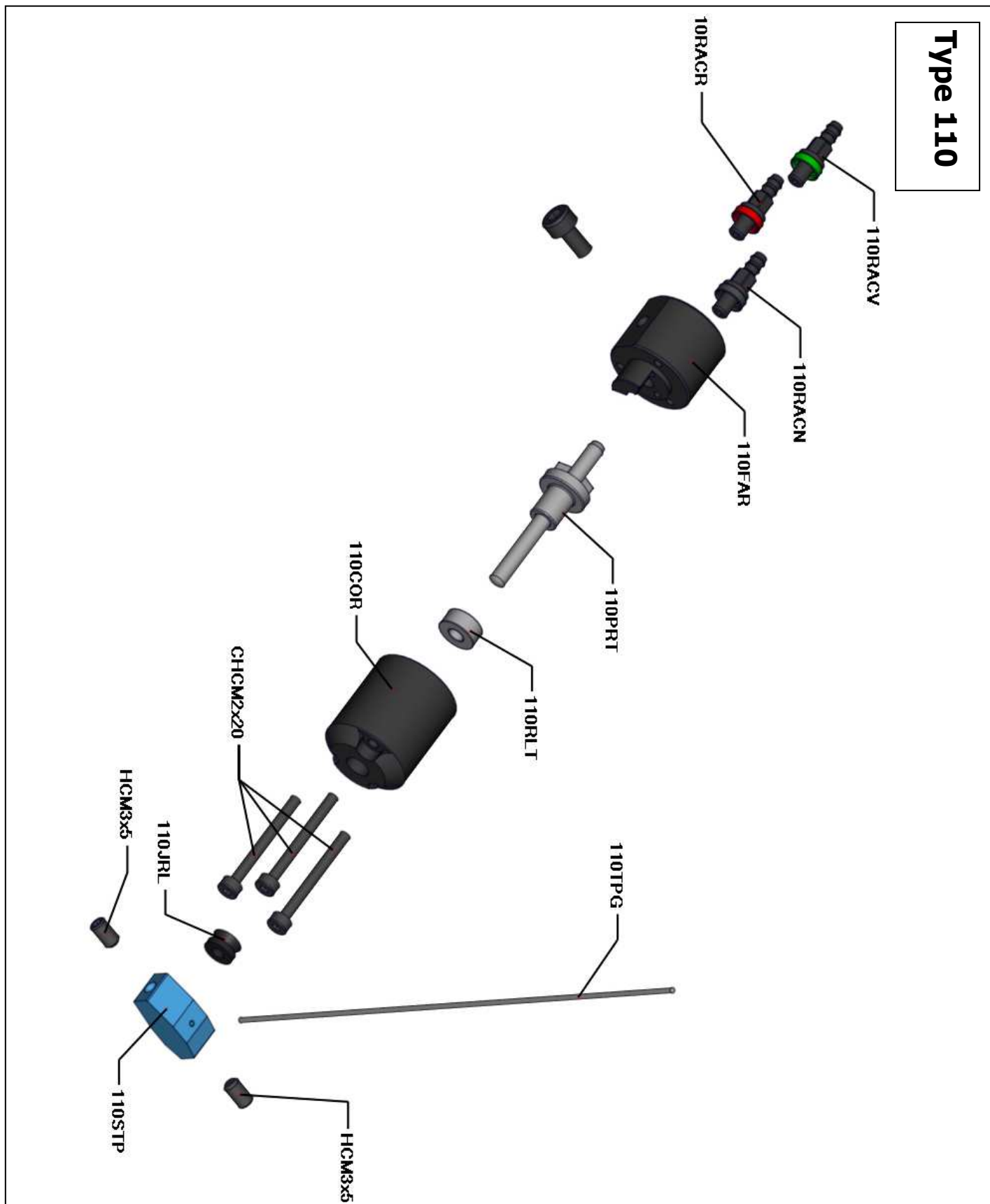


# SPARES PARTS AND ACCESSORIES

## Type 101

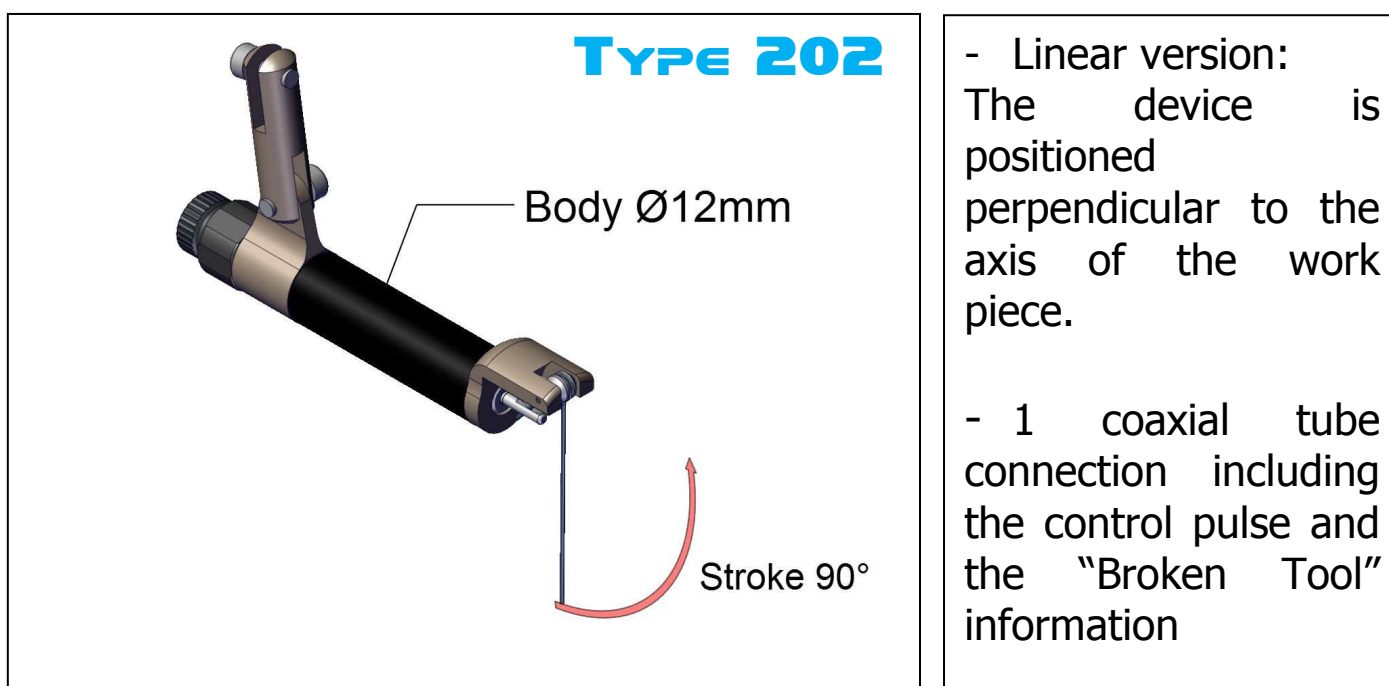


## SPARES PARTS AND ACCESSORIES

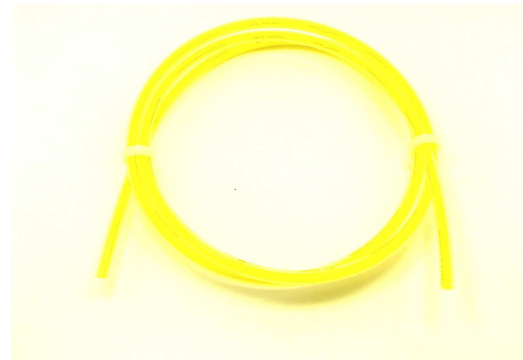


These fully pneumatic devices are designed to detect, by contact with a rod, the presence of a tool. They are suitable for all traditional or CNC machines.

- Type **202** for tools with a diameter greater than 0.8 mm





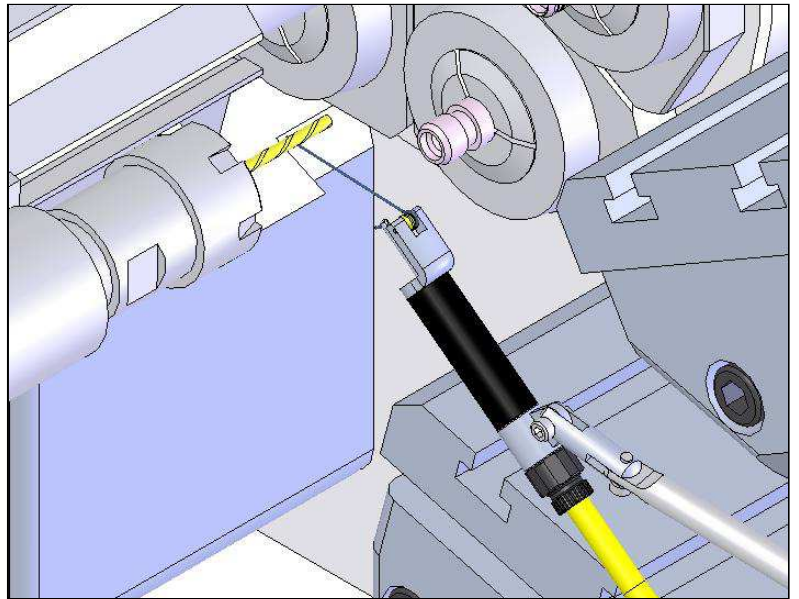
**202 COMPLET KIT COMPOSITION**1 body Type **202**1 milled fixing rod **202TFF**1 smooth fixing rod **0102TFL**1 tightening yoke **0102NSEVV2**1 pack of additional needles of:  
**2 x 202TPG040 + 2 x 202TPG060 +  
2 x 202TPG080**1.20 meters of coaxial tube **202TCX**1 pressure switch **0102PST**1 Y shaped shunt **202YDD**

## OPERATING PRINCIPLES 202

Each time the tool is withdrawn, a pneumatic pulse is sent to the device via a roller valve or solenoid valve. The duration of the pulse must be approximately 0.2 to 0.5 seconds. This trigger extends the piston for the 202, allowing the needle to reach the tool.

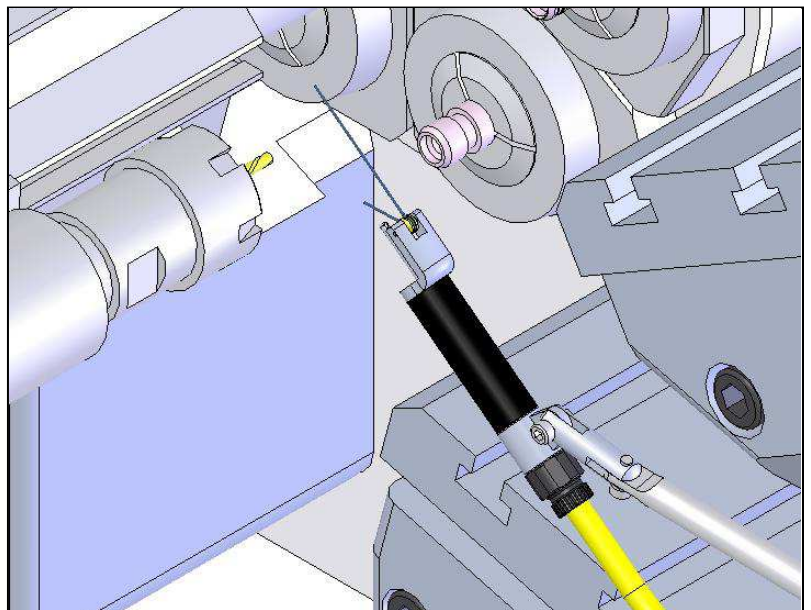
### 1<sup>st</sup> case: The tool checked is not broken

> The needle comes into contact with the tool: no "Broken Tool" information is received. With the ending of the pulse, the needle returns to its initial position (mechanical spring-activated return).



### 2<sup>nd</sup> case: The tool checked is broken

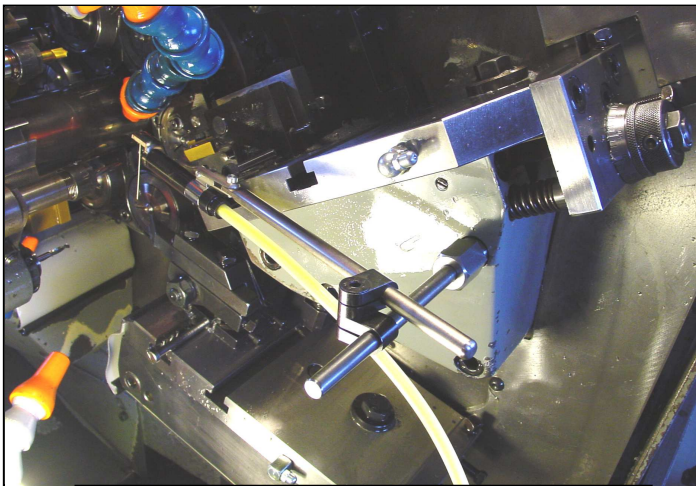
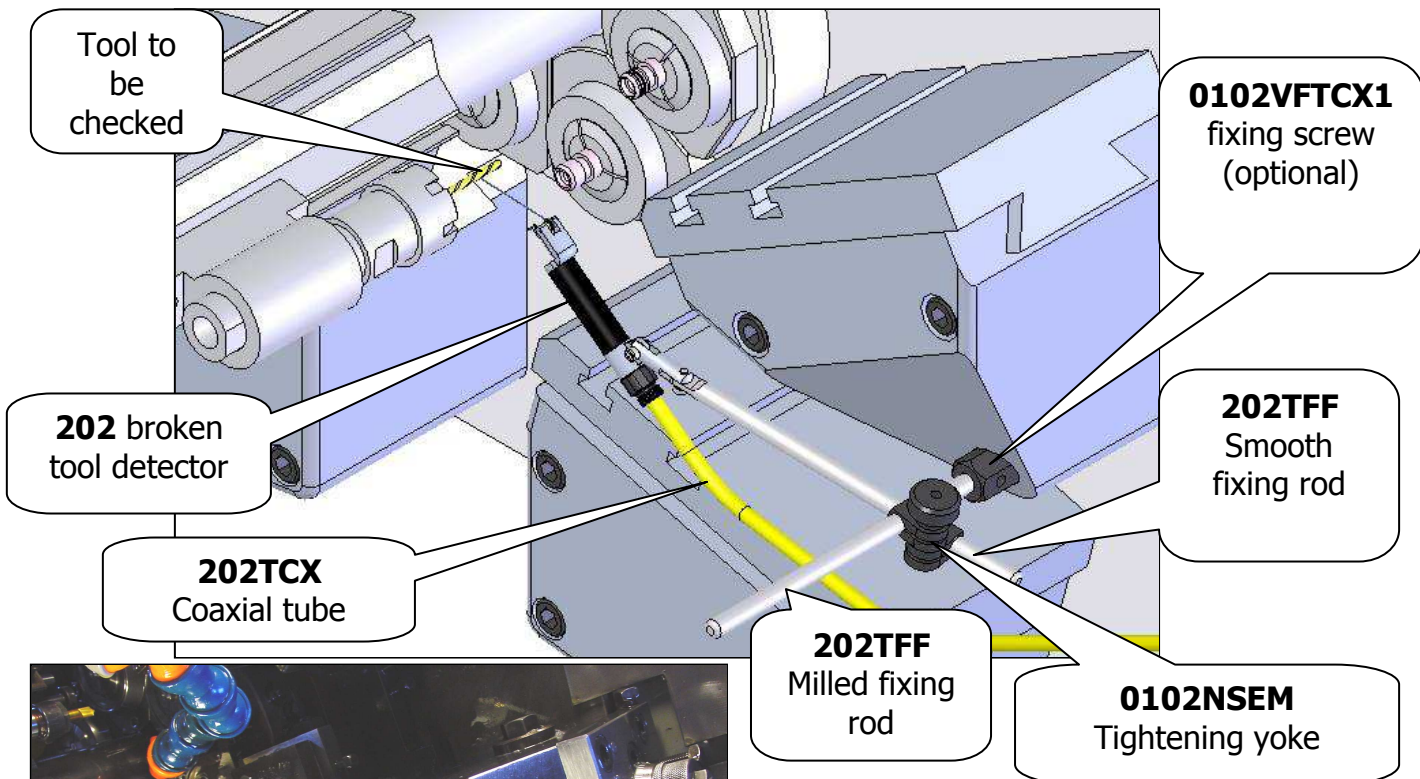
> The needle reaches the end of its stroke. The pneumatic "Broken Tool" information is received by the pressure switch, which converts it into an electrical signal to stop the machine.



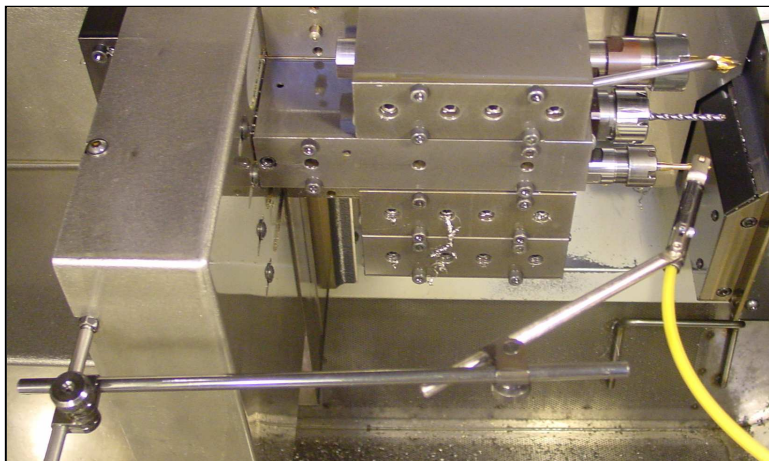
The detectors do not require any specific lubrication or servicing.



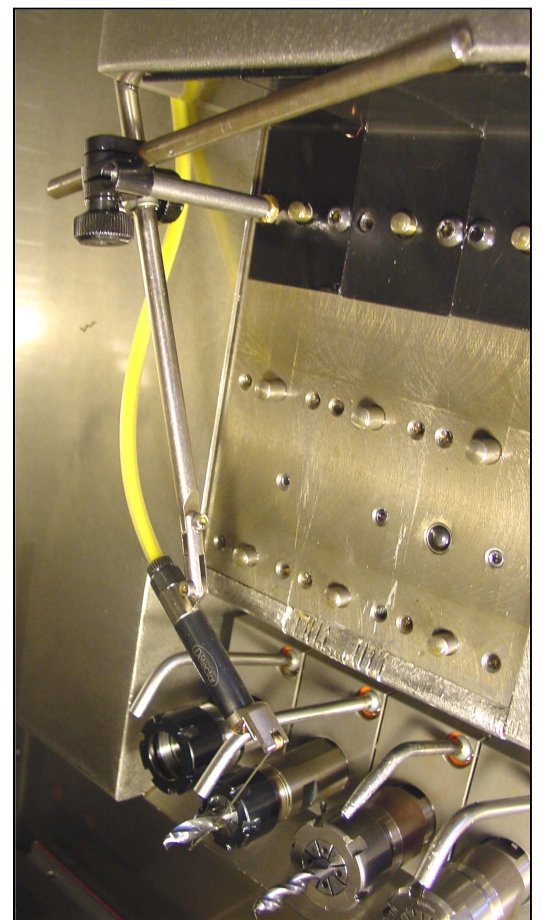
# INSTALLATION AND ATTACHMENT 202



Installation on multi-spindle machine



Installation on single-spindle CNC machine

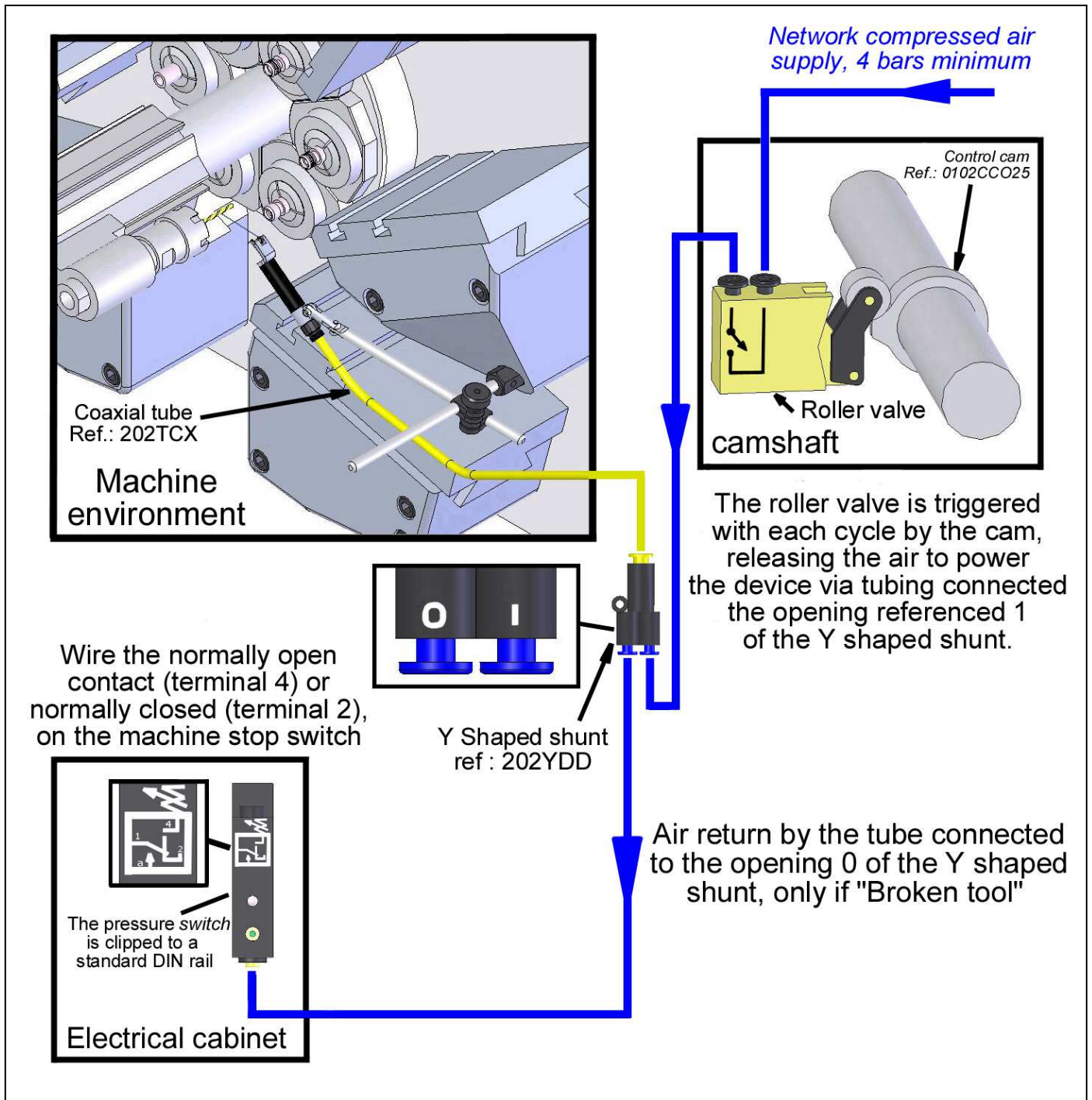


Installation on single-spindle CNC machine



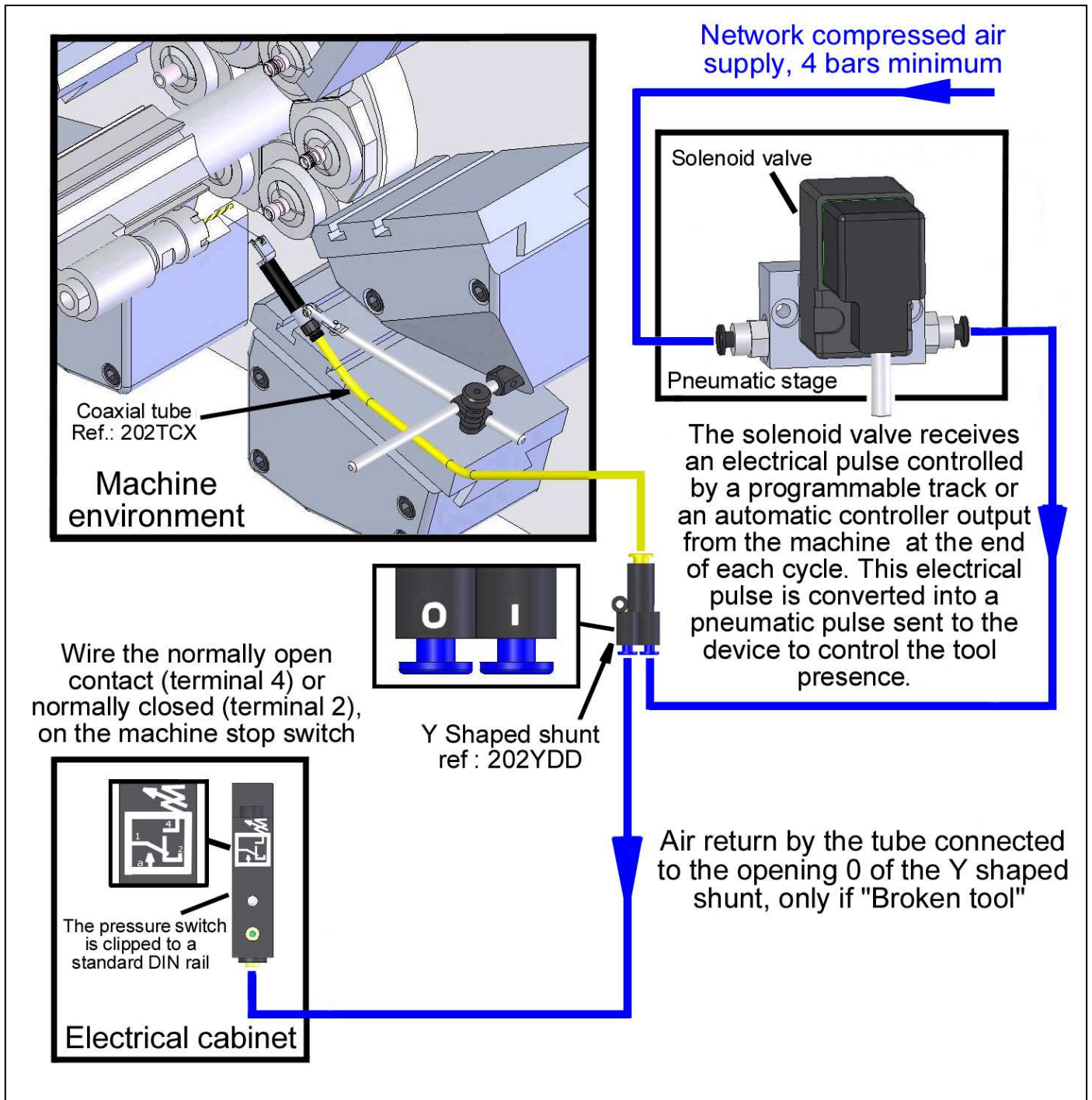
## PNEUMO-ELECTRICAL CONNECTIONS 202 / CAM MACHINE

This is how to complete the pneumatic and electrical connections for the **broken tool detector type 202** on a **conventional cam-based machine**.



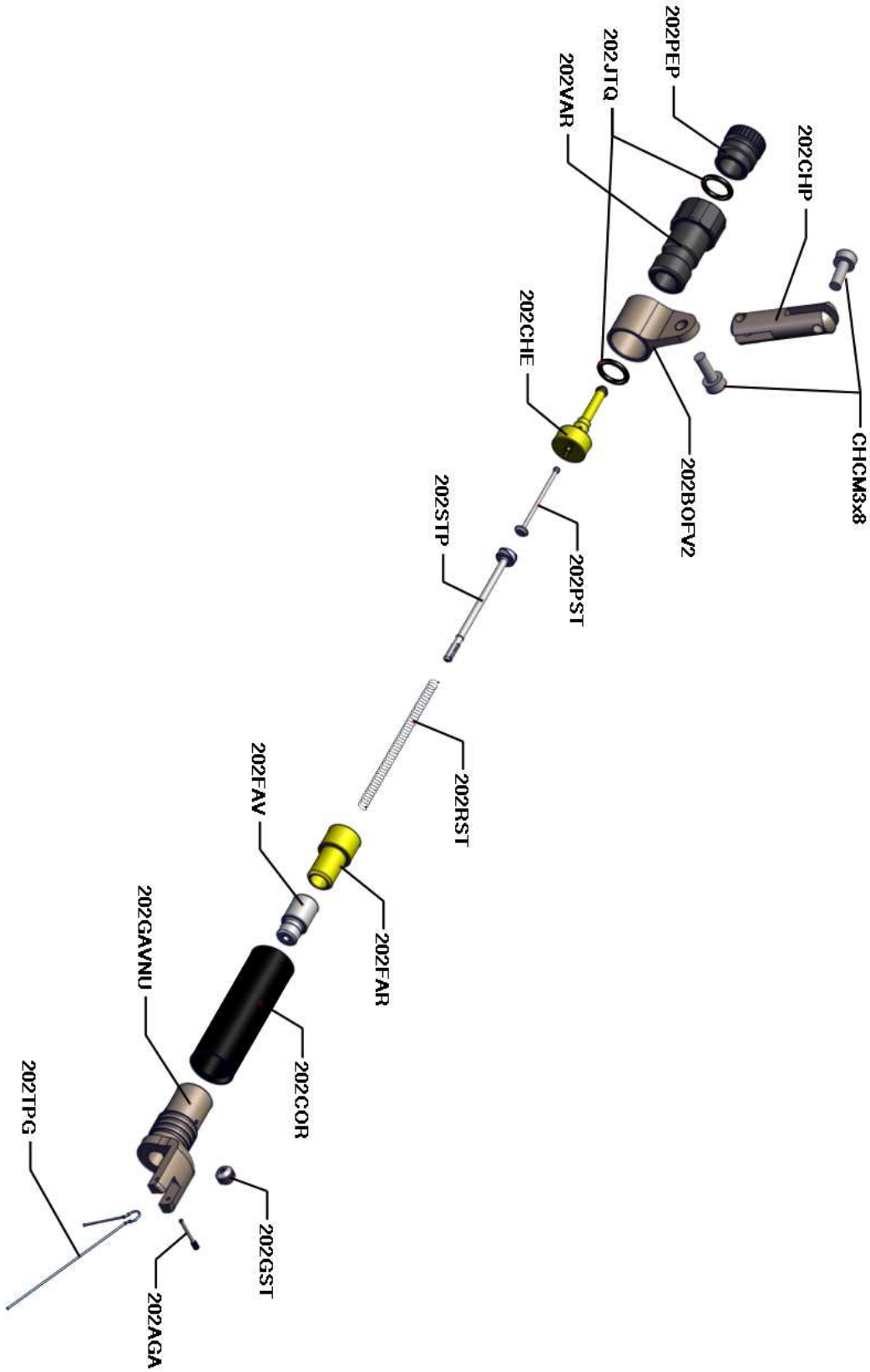
## PNEUMO-ELECTRICAL CONNECTIONS 202 / CNC MACHINE

This is how to complete the pneumatic and electrical connections for the **broken tool detector** type 202 on a **computer numerical control (CNC) machine**.



# SPARES PARTS AND ACCESSORIES

## Type 202







manufacturer

**DETECTOR FRANCE**

36 route des lacs – PAE des Jourdiés

74800 Saint Pierre en Faucigny

Tél : 00 33 (0)450 037 998

Fax : 00 33 (0)450 036 792

Email : [commercial@detector-france.com](mailto:commercial@detector-france.com)

**[www.detector-france.com](http://www.detector-france.com)**

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