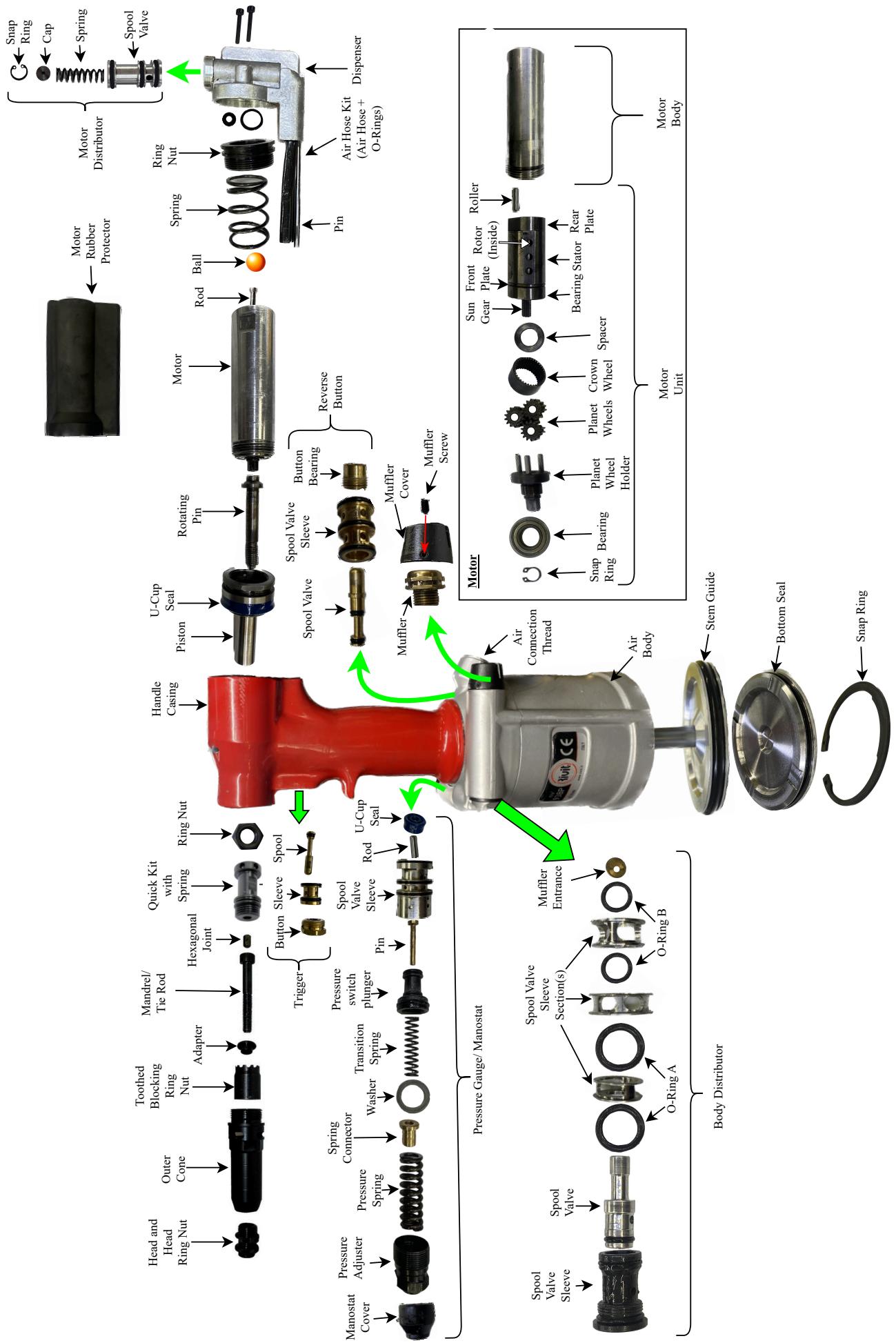


RIV938P Tool Guide

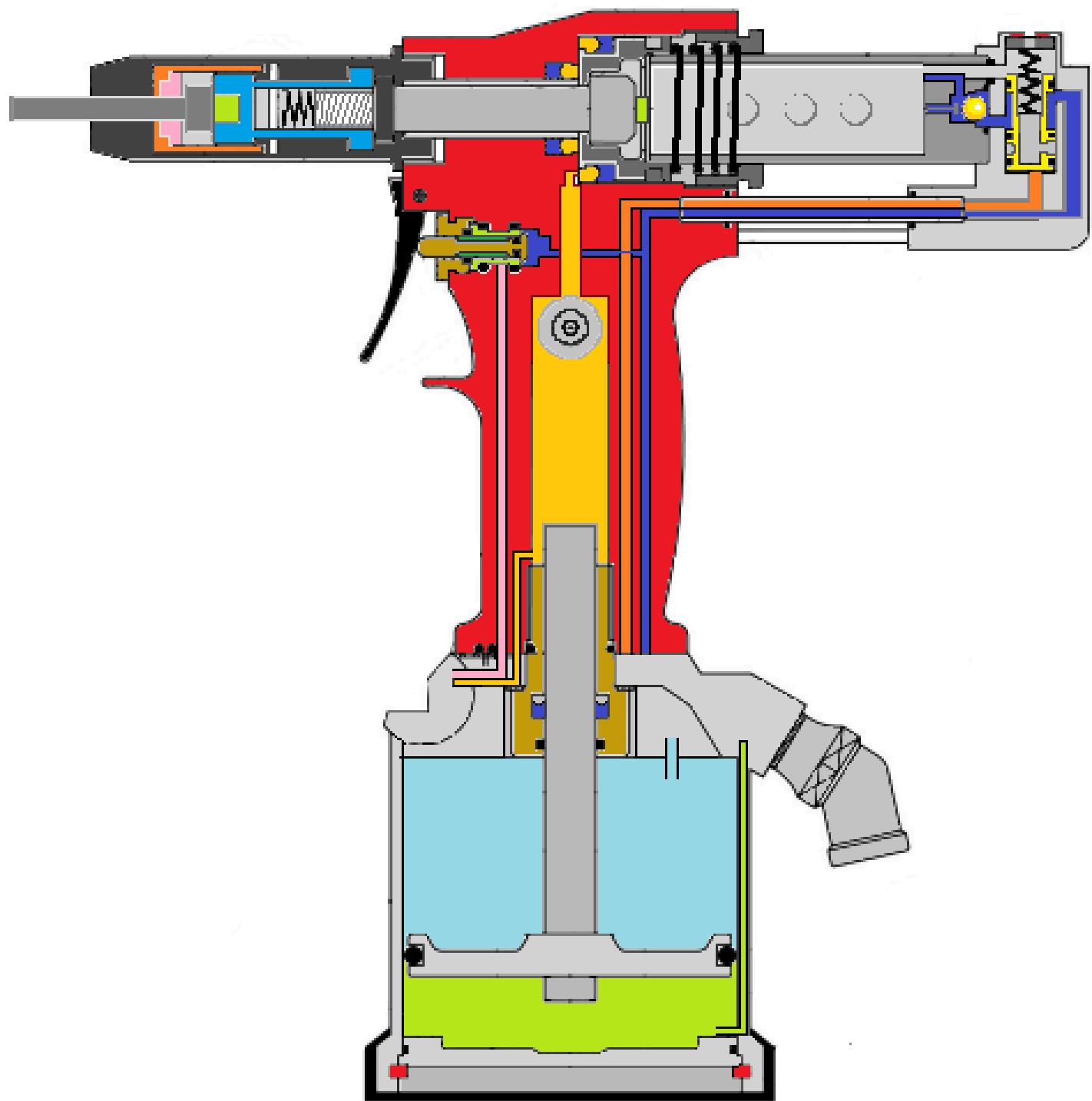
Operation, Parts, Preventative Maintenance, Troubleshooting



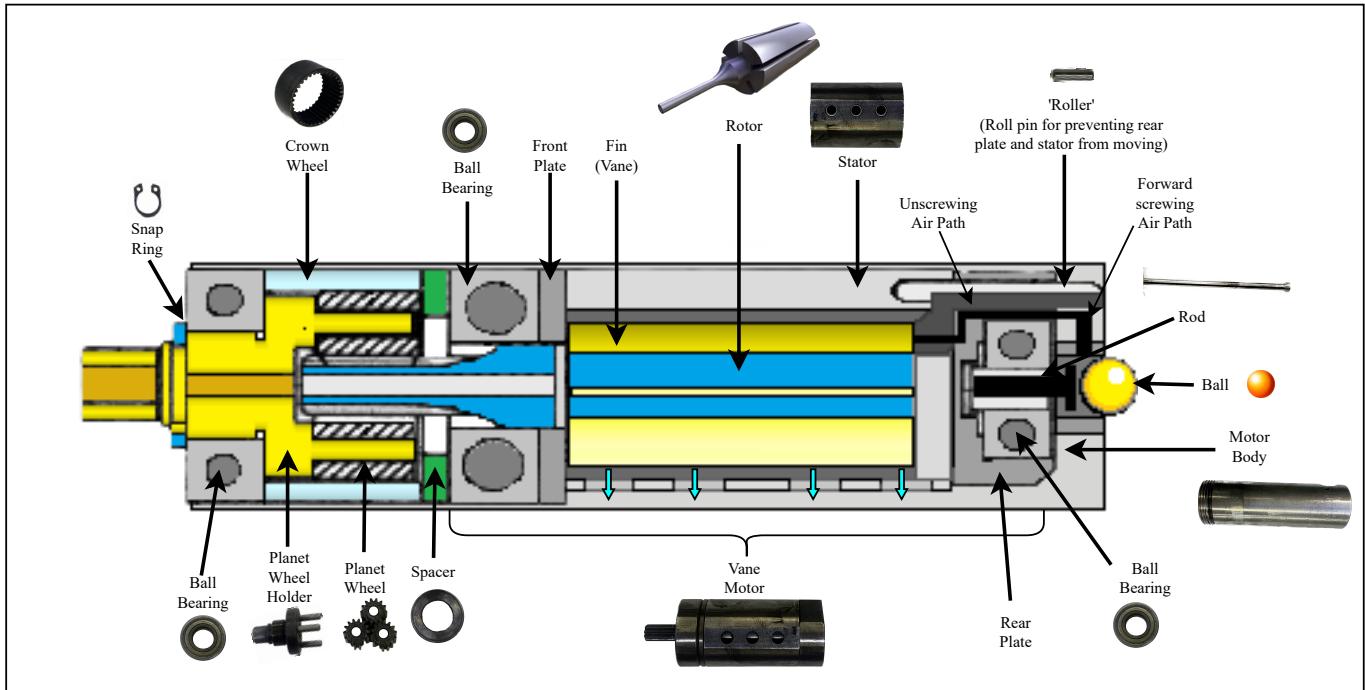
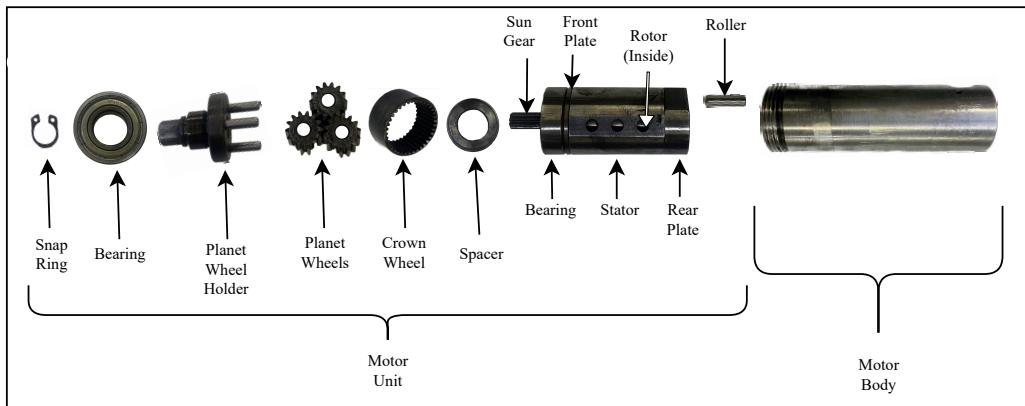
September 4th, 2024



Interior View

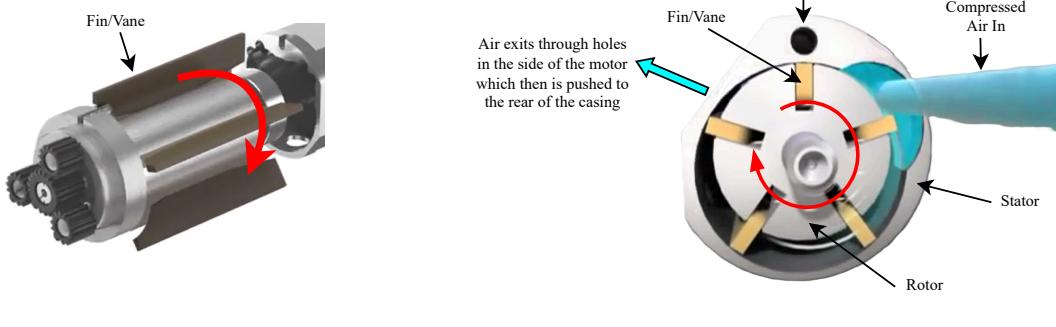


The Motor



Pneumatic Vane Motor

The motor in the RIV938P tool is a vane motor. This motor works via air pushing into thin vanes/fins which causes the rotor to rotate within the stator. Below is a diagram on how this works. Note: the motors in the images below are similar in concept but are not exactly the same. The images below should only be used to understand how the motor works



Side View

Rear View

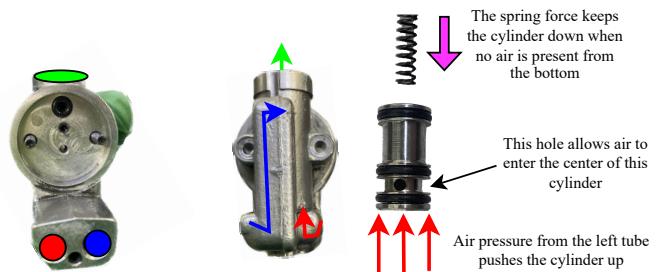
The 4 Mechanisms of the RIV938P

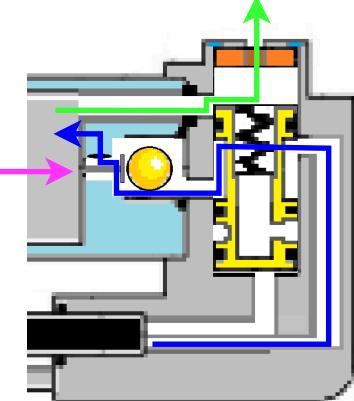
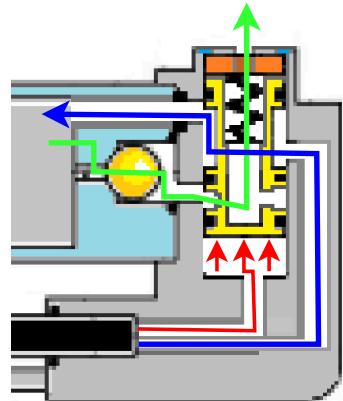
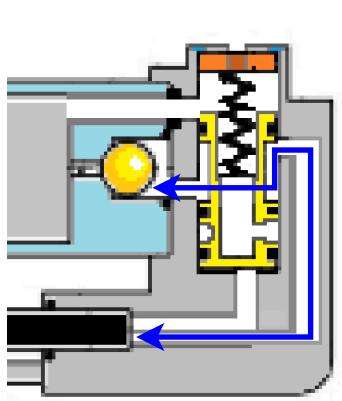
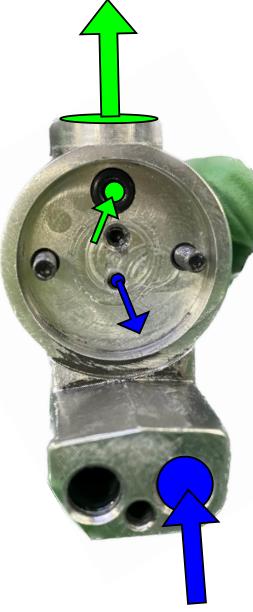
- 1) Screw (when you put rivnut on)
- 2) Unscrew (combined with stroke gets tool out of the rivnut which has been placed)
- 3) Pull (pulls piston back to place rivnut)
- 4) Stroke (undo of pull)

-  = Right air tube
-  = Left air tube
-  = Exit Air

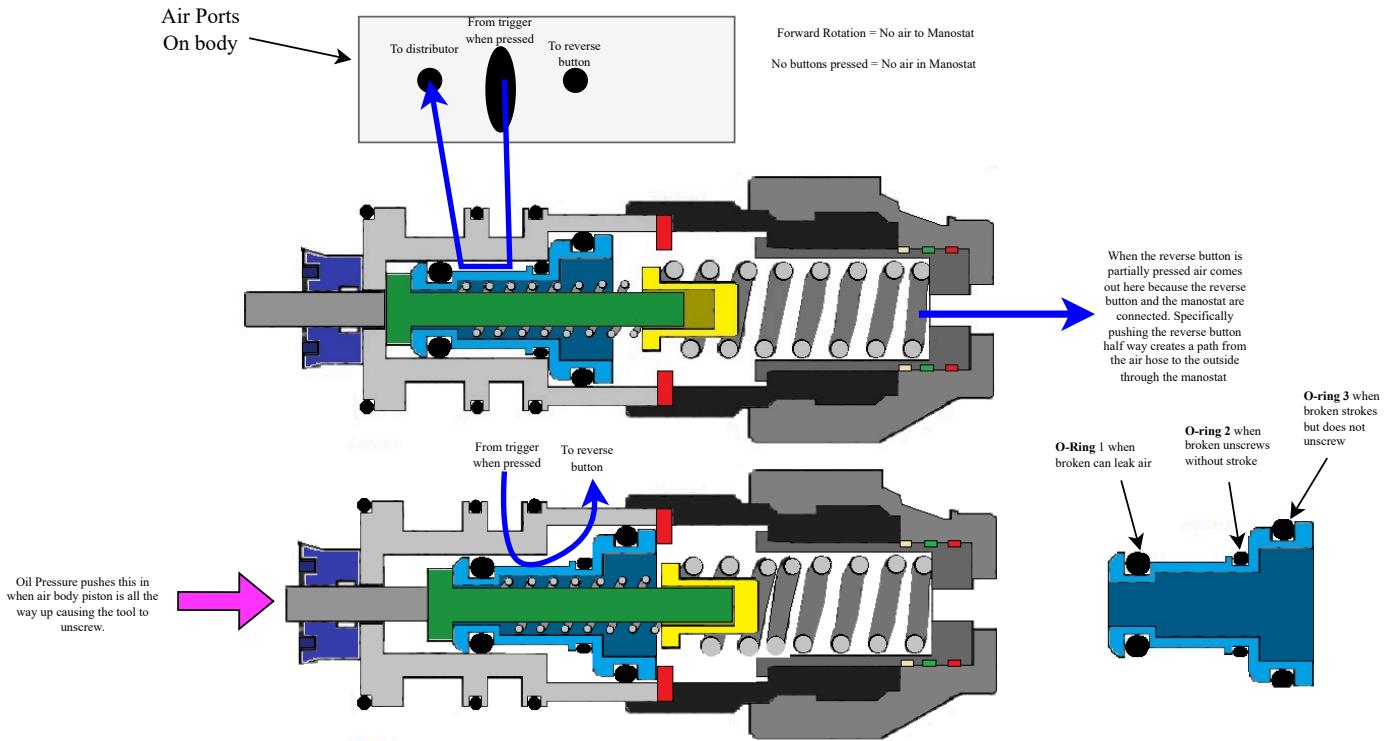
Motor Screw and Unscrew Mechanisms

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Screwing	Unscrewing and Stroke	Idle & Pull
 <p>When a rivet nut is placed onto the mandrel this pushes the rod in the motor back creating a path for air to flow around the ball into the motor causing it to screw.</p>	 <p>Pressure builds up and is released through the muffler since air cannot move past the ball. The ball forces the rod which causes the stroke.</p>	 <p>Pressure builds up because there is nowhere for air to flow since the ball seals the hole. Then the trigger press causes stroke and then after that something happens internally allowing air to go through the left air hose (red arrows in reverse diagram to the left) and push the piston up. This changes the tool from pull to unscrew.</p>
		

The Pressure Adjustor (Manostat)

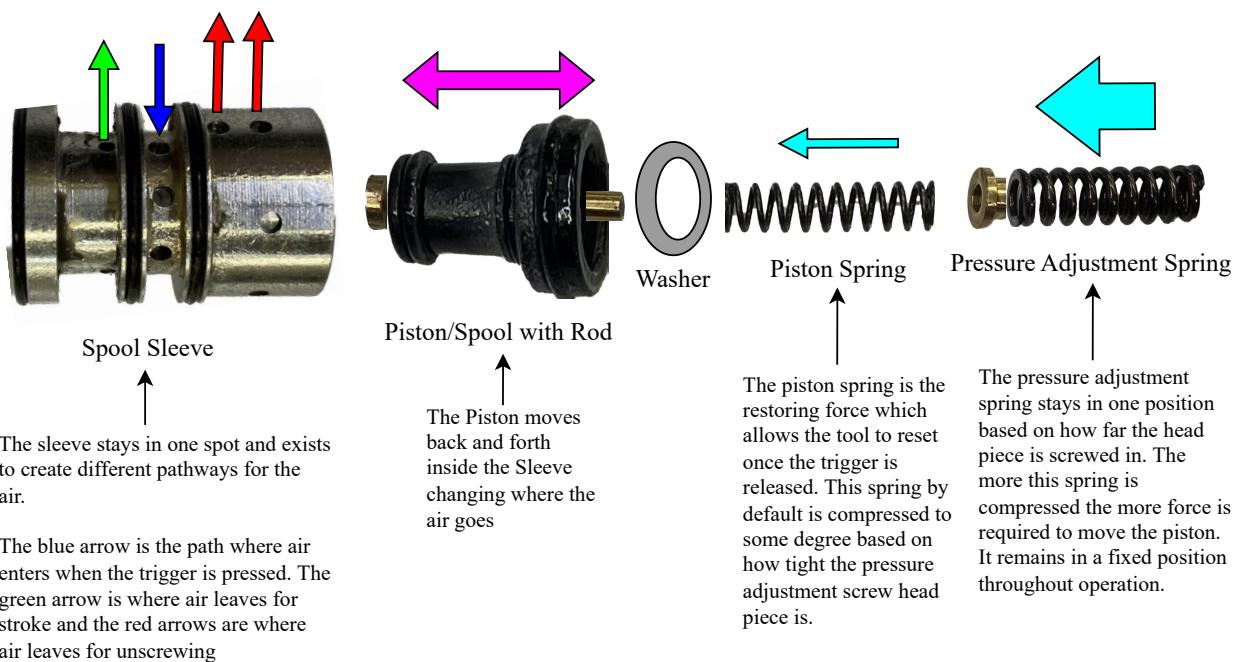


How the Manostat Works

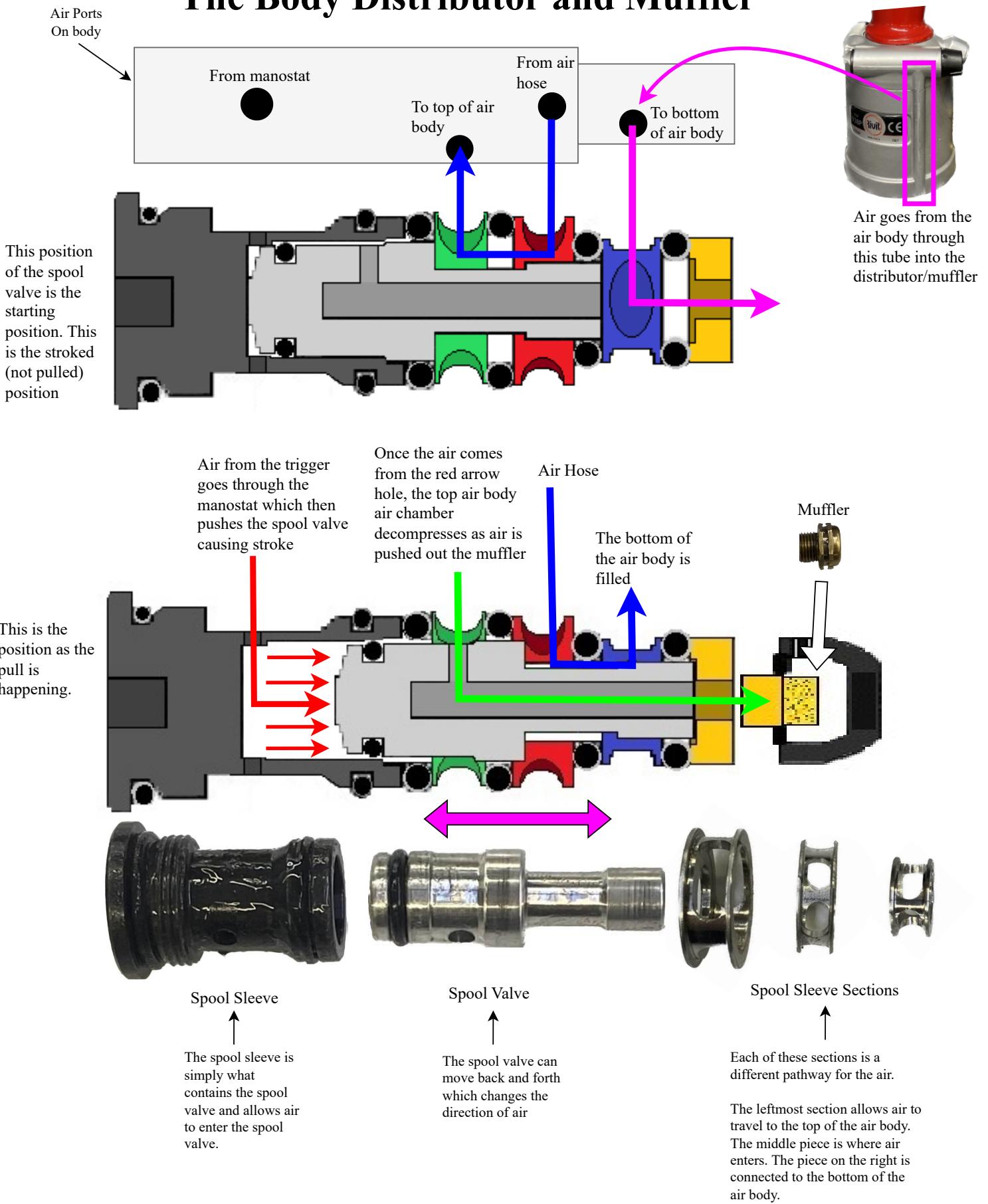
After the stroke pressure builds internally until pressure is eventually exerted on the pin via oil which pushes the piston inside the manostat changing the direction of the air flow.

The new direction for the air flow must go the left side of the motor distributor because then the unscrewing starts.

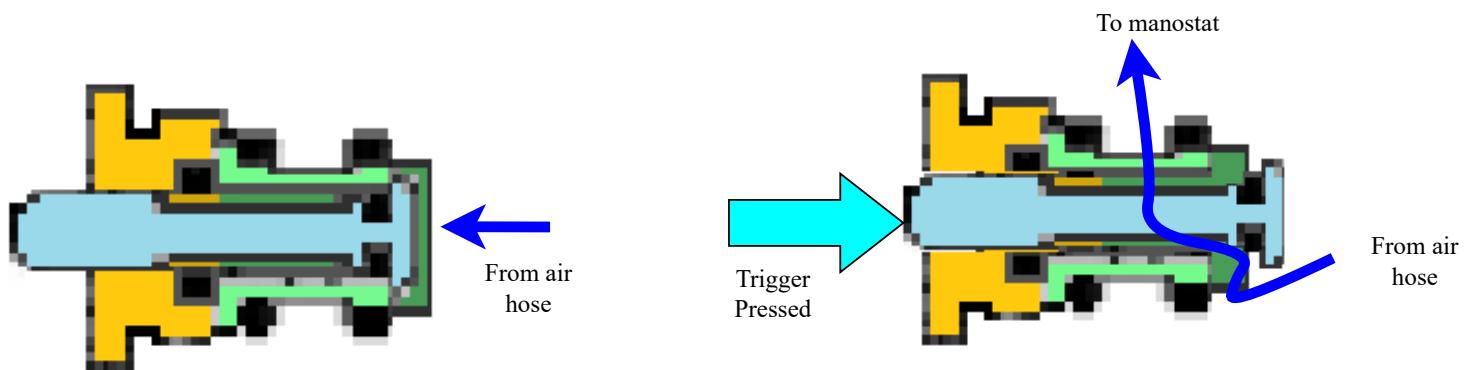
After this, once the trigger is released the spring force pushes the pin back outwards resetting the process.



The Body Distributor and Muffler



Main Trigger

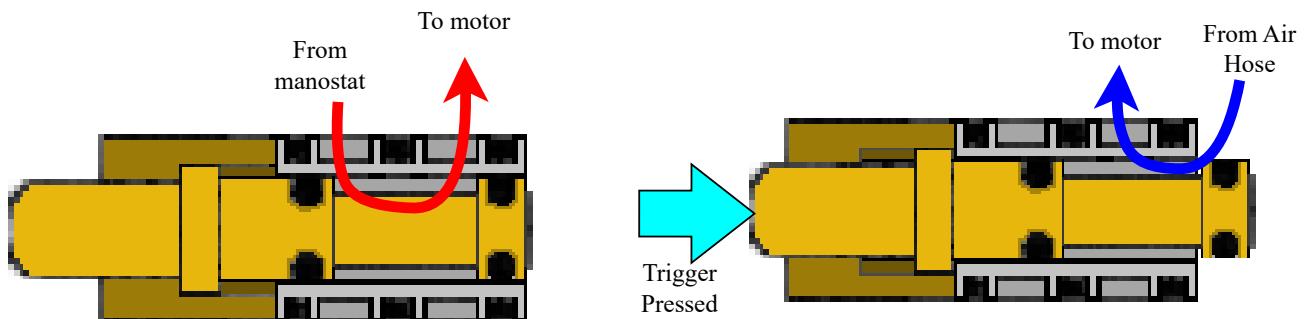


Air from the air hose is always entering into the trigger chamber through a hole in the back. This air pushes the trigger outwards. Until the trigger gets pushed air cannot get past this point.

When the trigger is pressed air can pass from the air hose downwards into the manostat



Emergency Unscrew Button



When the emergency unscrew button is unpressed air can pass from the manostat into the reverse button and then up into the motor.

When the emergency unscrew button is pressed it allows air to go directly from the air hose to the motor for unscrewing



Button Bearing

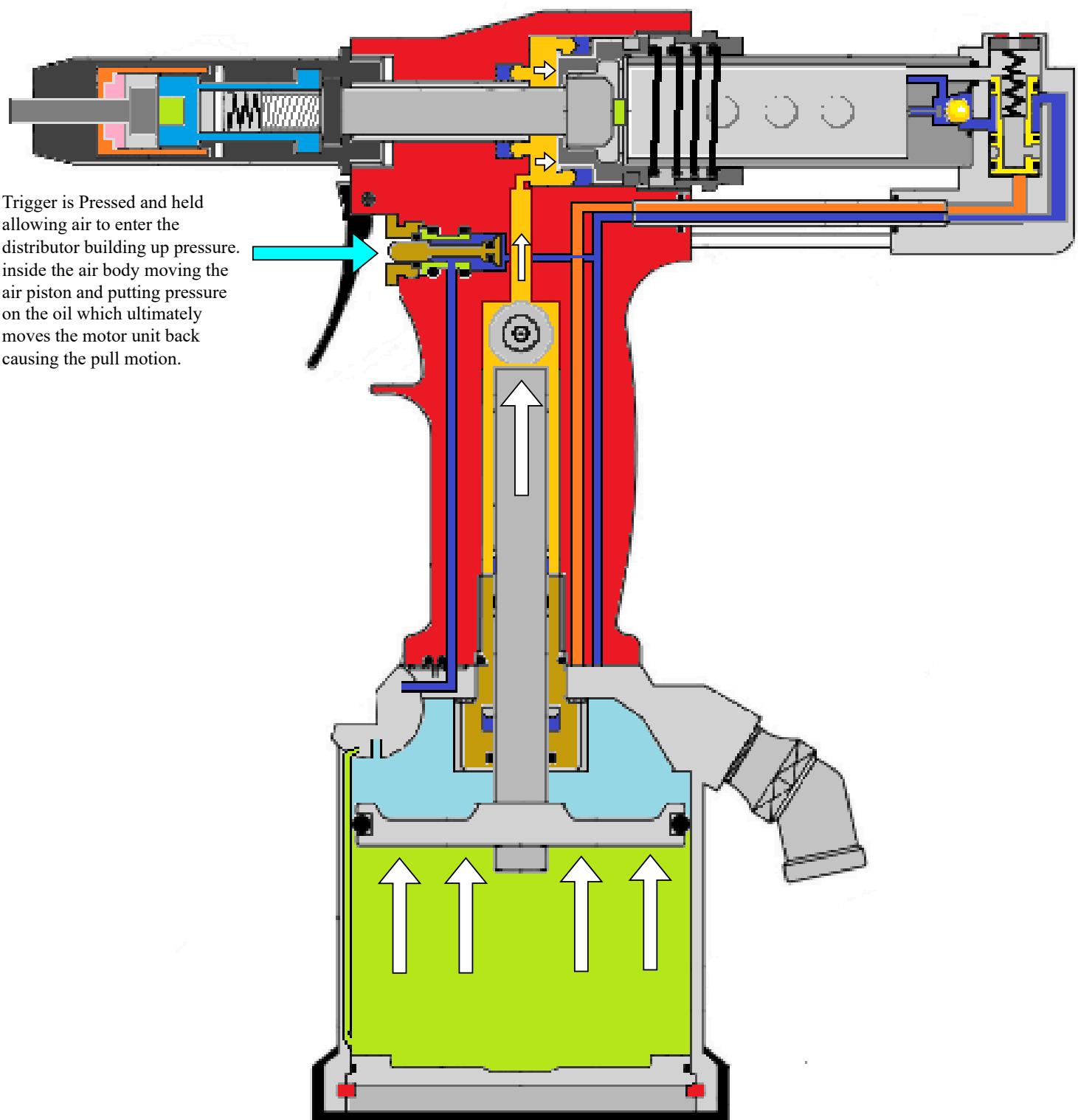


Spool Valve Sleeve

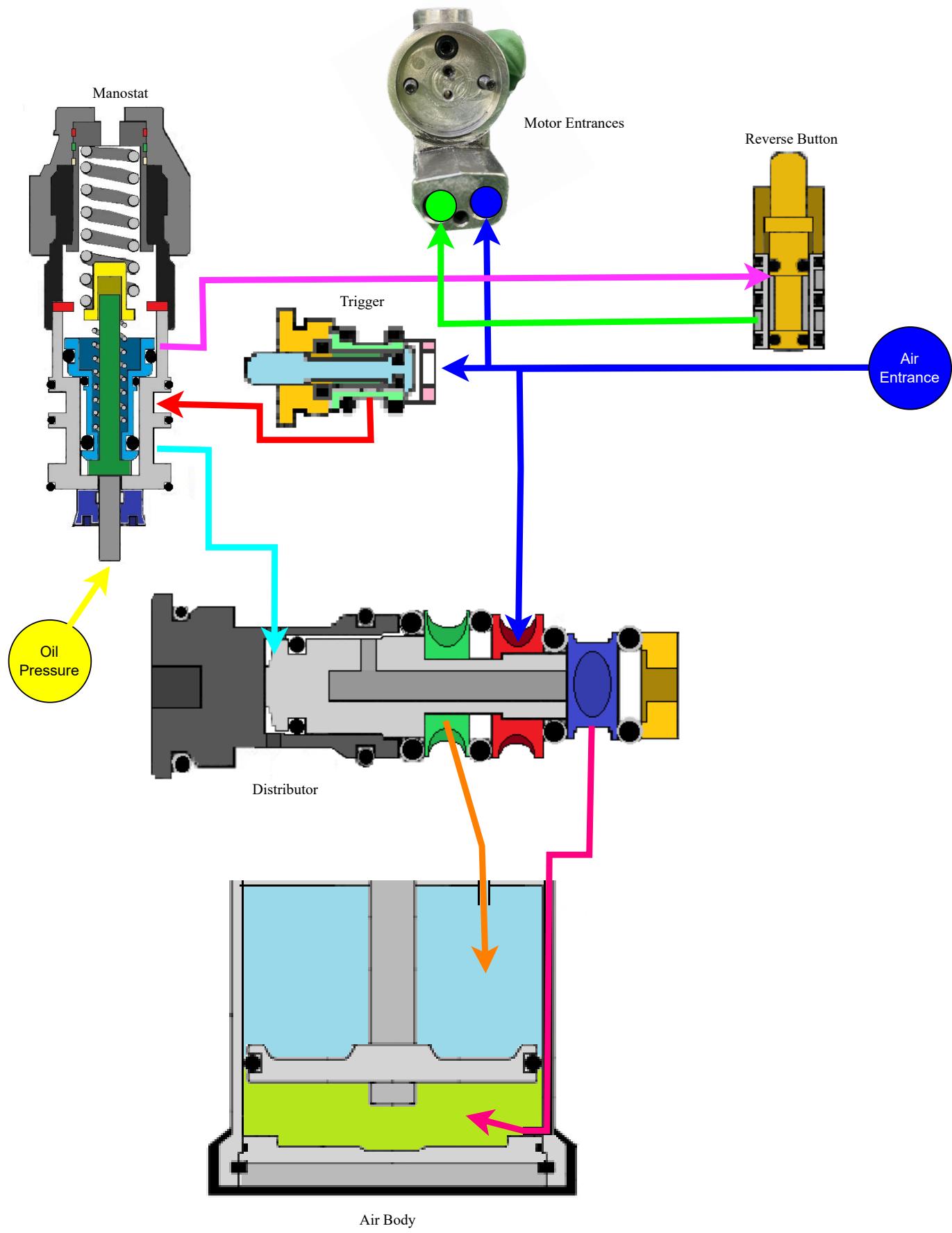


Spool Valve

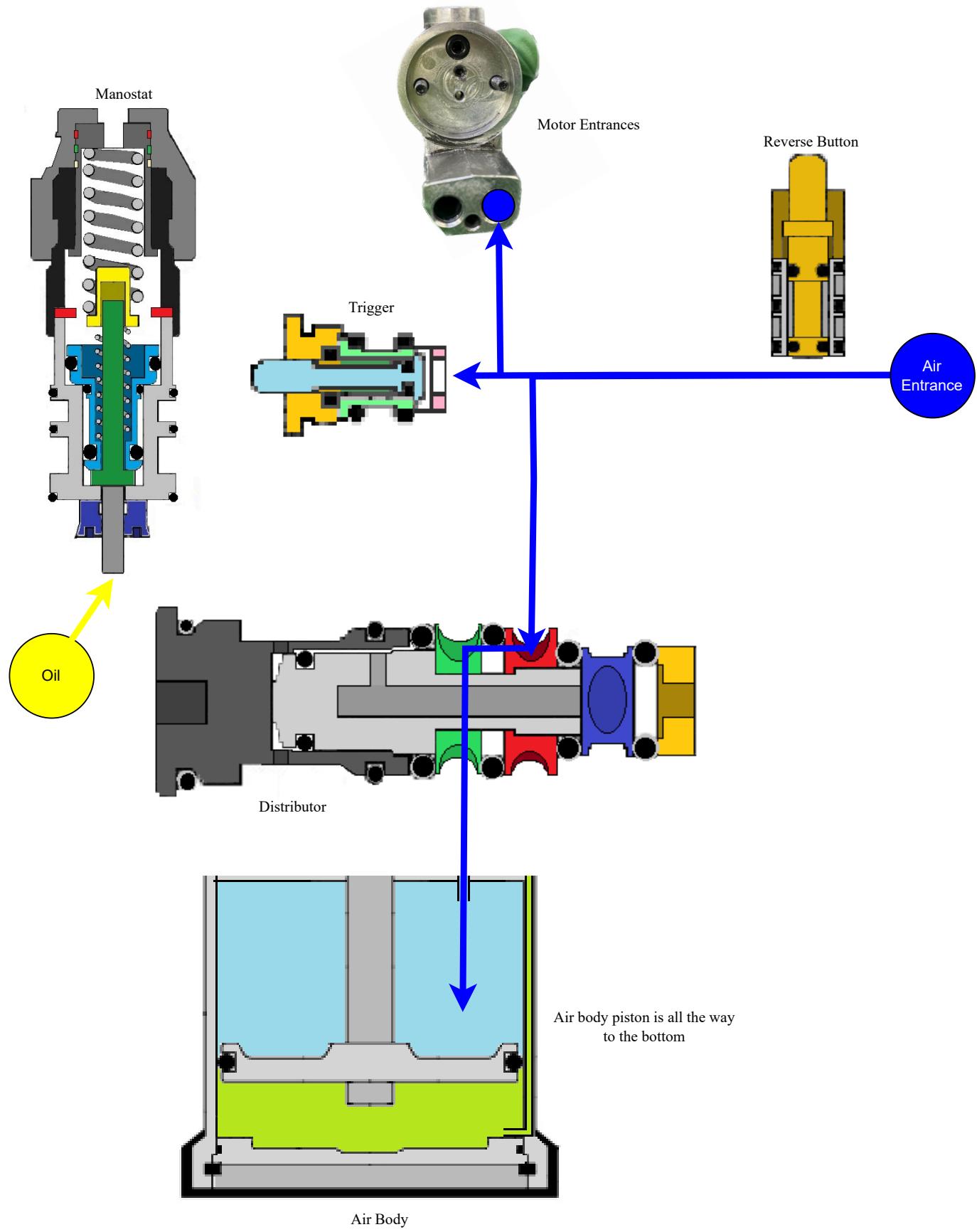
Air Body Pull Mechanism



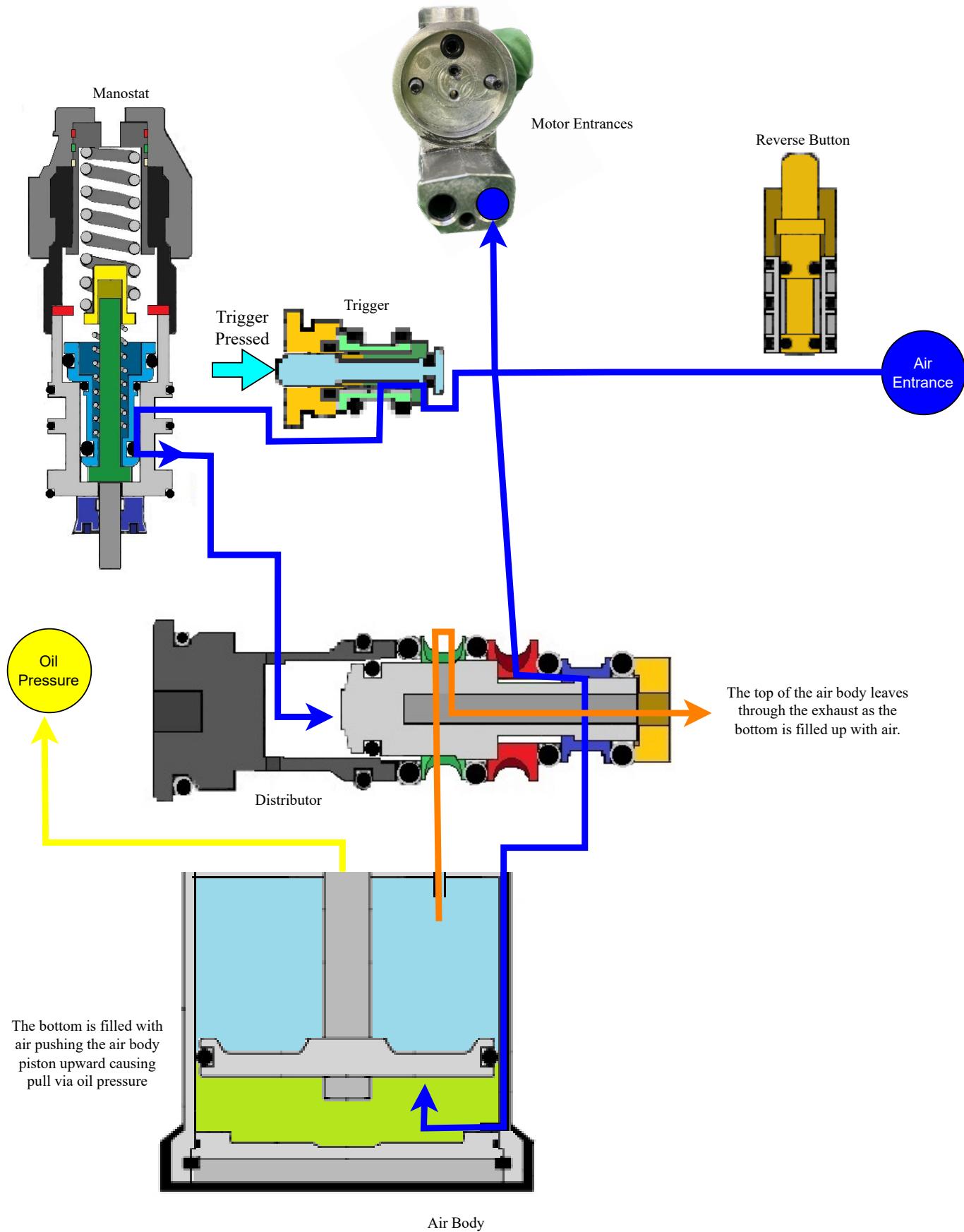
Air Circuit Diagram



Resting State of Tool



Trigger Pressed: Pull



Trigger Pressed: Stroke & Unscrew

