

Plasma Arc Cutting #4 (Torch Components)

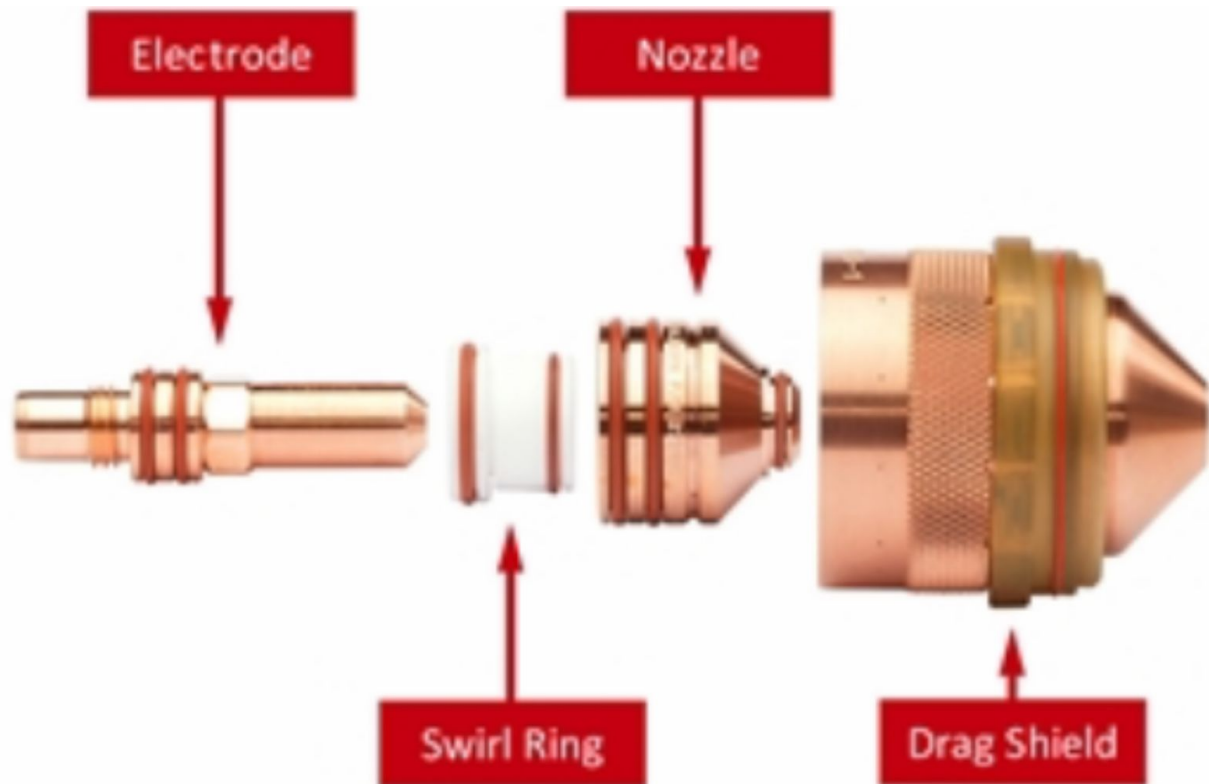
- The cutting torch generates the plasma arc used to cut the workpiece
- The torch connects to the power source and the compressed air source by cables and hoses through which the electricity and pressurized air flow
- Hand held torches have an angled handle as well as triggers to start the arc. Some triggers have a safety lock to prevent accidental activation of the plasma arc



Plasma Cutting Torches

- Torches have several components, called **consumables**, that wear out with use
- Every torch has a consumable **electrode**, **nozzle**, and **gas distributor** (also called a **swirl ring**)

- The electrode emits the arc while the nozzle contains and focuses the air
- Gas distributors create a swirling vortex of air, which keeps the gas centered within the electrode and nozzle opening
- These parts wear out because they are directly exposed to the intense heat used in generating the plasma
- Some torches have a consumable **drag shield (shield cup)** to set the proper distance to hold the torch from the cut
- A **retaining cap** holds the drag shield in place and also covers the other components
- The torches also provide the **shielding gas**, which protects the workpiece from atmospheric contamination and cools the torch components to help extend their life



Plasma Cutting Torch Components
