

Air Compressor Restrictor Installation

To bypass the Air EPC (Electronic Pressure Controller) you can install a longer restrictor to provide the correct amount (200-300ml/ minute) of air flow to the FID detector directly from the built-in air compressor.

The air compressor operates at 12 psi whereas the Air EPC operates around 5psi. To keep the air flow at about 250ml/minute a longer restrictor is required. We use two lengths of the same restrictor normally used with the air EPC..

Access the inside of the GC by removing power and then the 6 screws holding the GC bottom plate.

Locate the air filter and remove the copper tube from the filter outlet.

The copper tube has a silicone tube to make a snug fit into the larger silicone tube on the filter outlet.

These are the parts in the installation kit

SRI part# 8670-0159 2025 price \$150

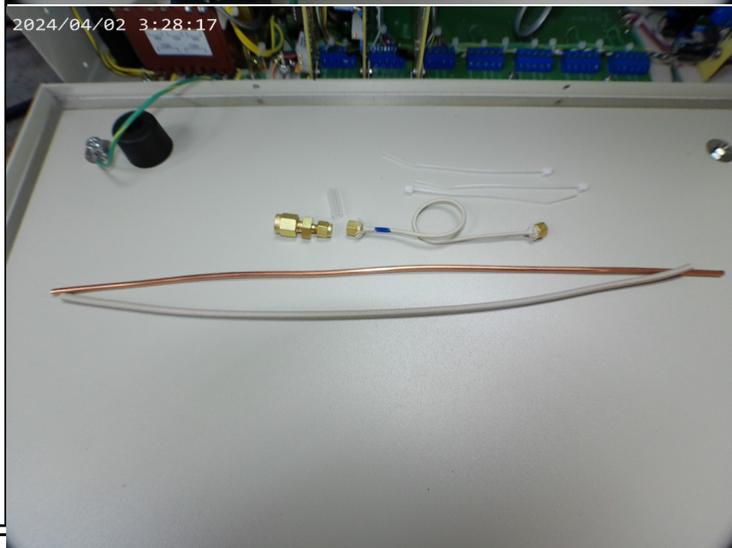
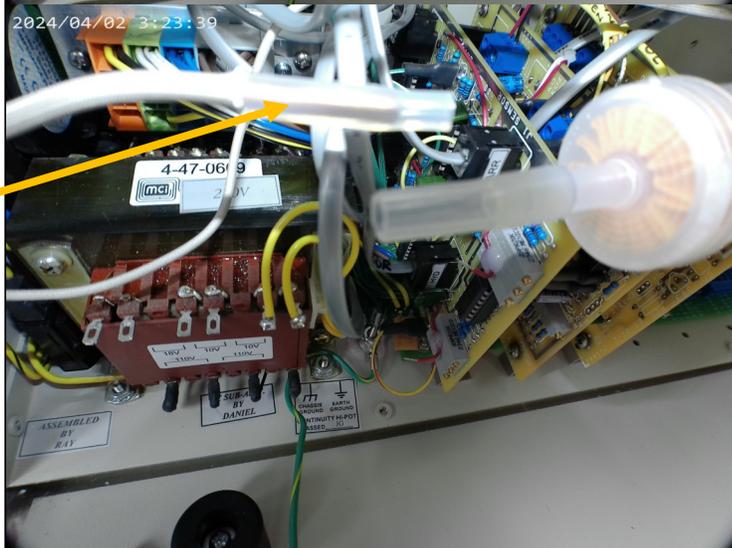
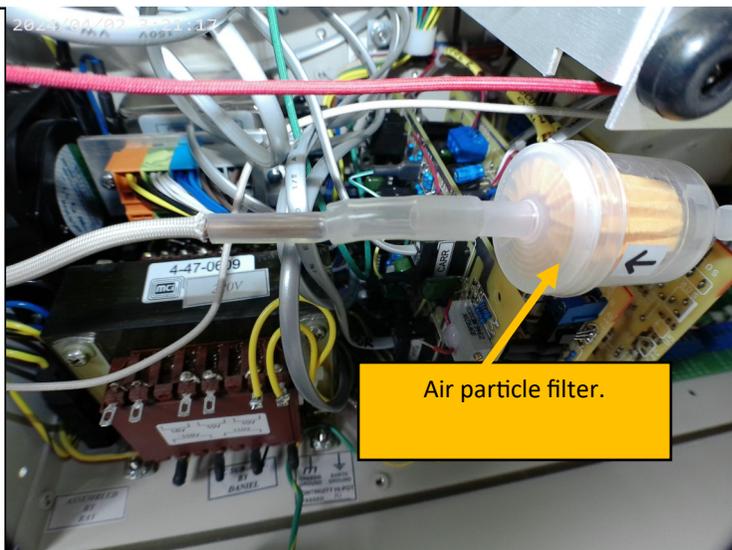
15" 1/8" copper tube with silicone tube on one end

13" Varglass fabric sleeve

Brass 1/18 to 1/16" reducing union

Air restrictor with 1/16" nuts and ferrules attached.

3 tie-wraps to secure tubing.



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Insert the new copper tube into the filter outlet. It helps to moisten the silicone tube to make it wiggle in more easily.

Slide the Varglass fabric sleeve over the copper tube. Avoid getting any fabric dust in the tube.

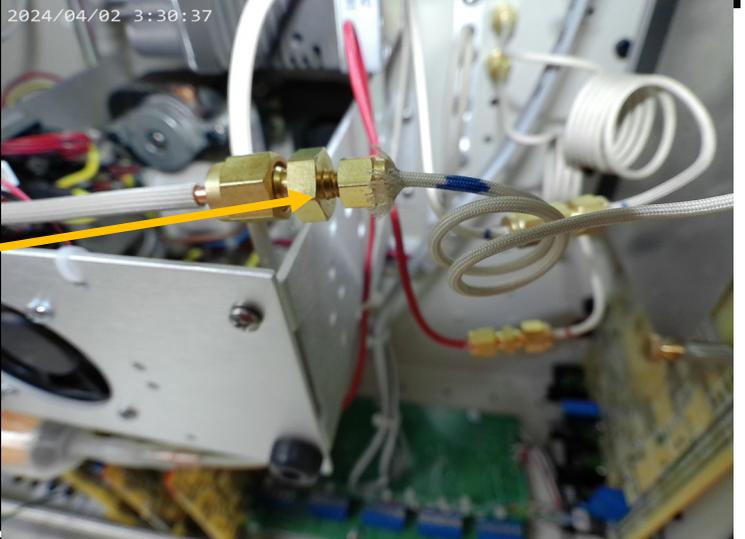
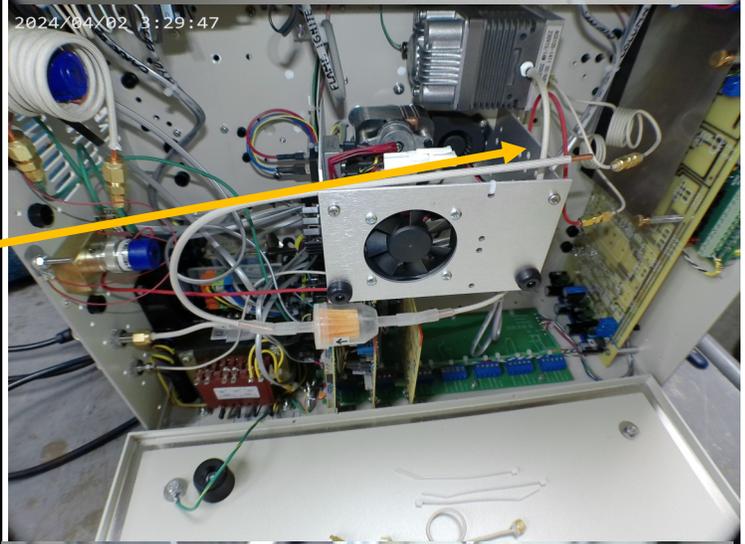
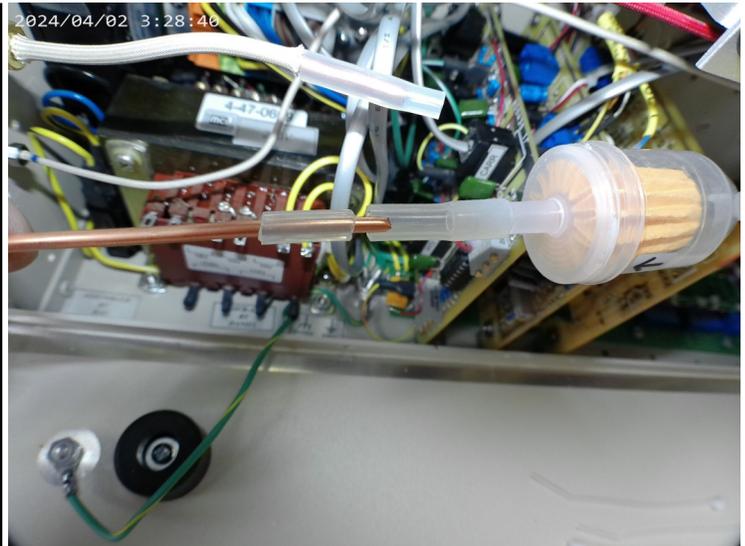
Bend the varglass covered copper tube in a u-shape over to the right side of the GC. This brings it closer to the location of the air restrictor. Route the tube so it does not contact any other parts.

Turn the GC power on and air compressor switch on briefly to blow any fabric dust out of the copper tube. Dust can clog the restrictor.

Its OK to do this with the GC on its back and open.

Connect the copper tube to the 1/8-1/16" brass union. Tighten using two wrenches until tight but do not overtighten.

Connect the new restrictor to the 1/16" end of the union.



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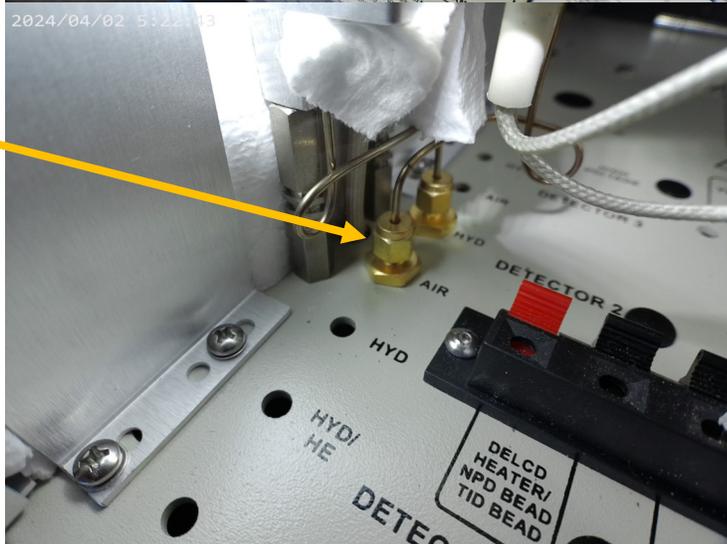
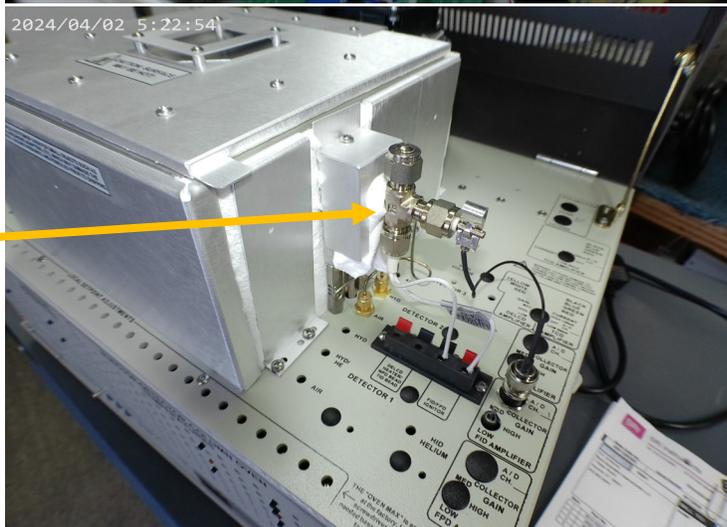
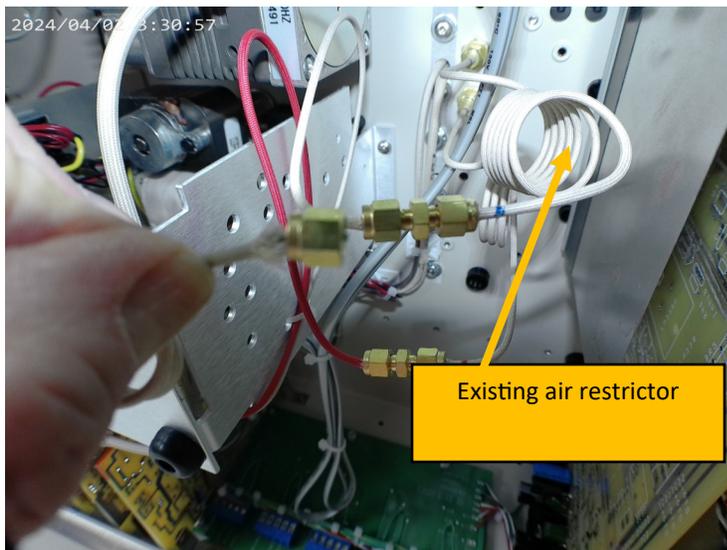
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Connect the new restrictor's other end to the 1/16" union where the original restrictor is also connected. This puts the two restrictors in series so the air flow at 12psi from the built-in air compressor is the same flow a 5psi through the EPC. That flow should be 200-300ml/min, (ideally 250ml/minute). You will have to disconnect the tube coming from the existing Air EPC (on the left side of the GC). This may be covered in a black or blue Varglass sleeve. You can probably leave it hanging in its current position or use a tie wrap to secure it. Use the tie-wraps to secure the copper tube so it does not move around.

There may be a similar looking (but longer) coiled Hydrogen restrictor close to the air restrictor. The tube from the hydrogen EPC is normally covered in red Varglass.

This is the FID detector.

The 250ml/minute of air (from the dual restrictors) connects to the FID at this 1/16" brass bulkhead. You can measure the 250ml/minute here. When re-tightening the brass nut there is no need to over-tighten as there is almost zero pressure at this fitting since inside the FID the flow is open to the atmosphere.



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