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3D PRINTED PRIMER LATCH

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3D Printed Primer Latch

Abstract

The carriage performs the actual printing on the substrate. It is moved across the print platen and contains the printheads and the necessary electronic components to print. The printheads are held into the carriage by a latch. A primer assembly is responsible for squeezing ink out of the printhead nozzles to remove clogging and maintain printhead health. This primer assembly blows pressured air through the latch that is directed inside the printhead.

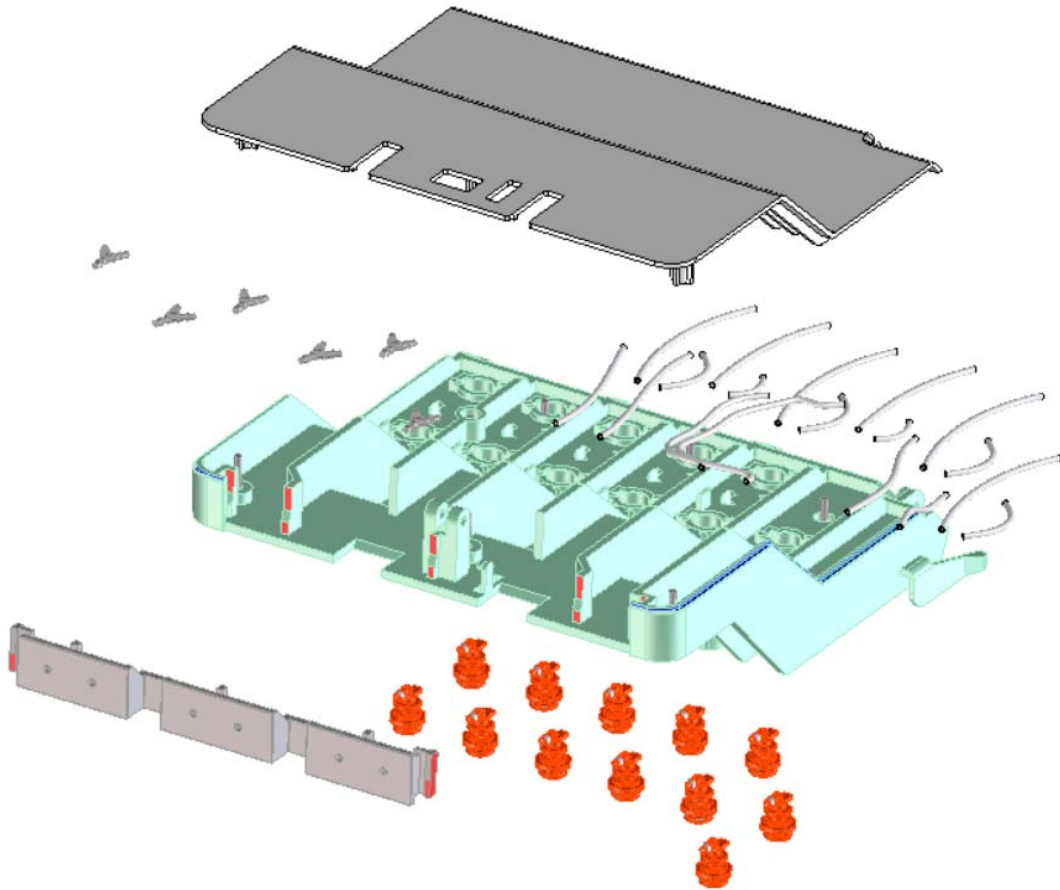
To do so we propose a single 3d printed part that has internal channels to route the air.

Problem solved

Air is routed through the latch with a single and simple part.

Prior solution

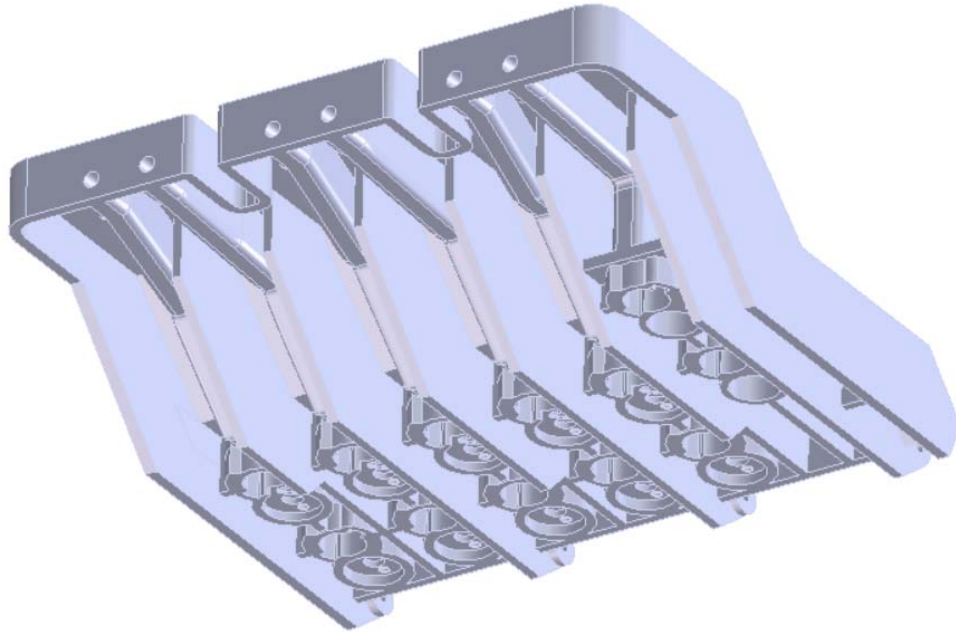
The routing of the pressured air inside the latch is done by means a mix of custom plastic parts, catalog parts and silicone tubes. The final assembly is complex and contains a high number of parts.



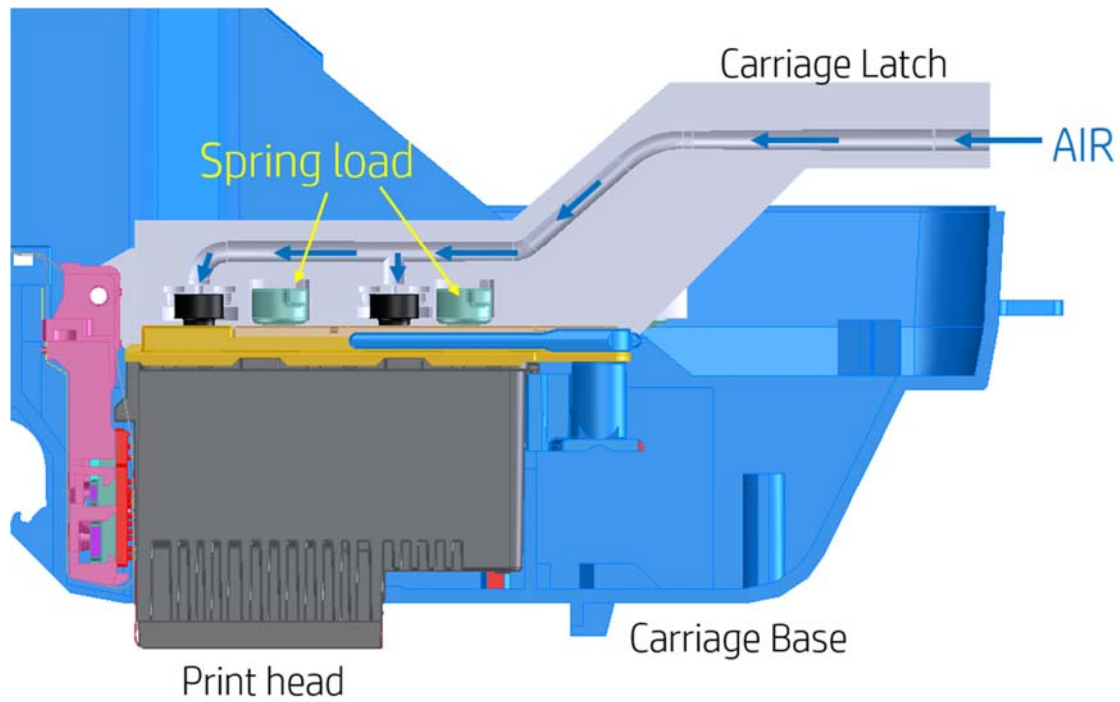
Our solution

Proposed solution is a single 3d printed part with internal channels that routes the air from the frontal interface to the printhead.

Part:



Cross section with channels detail:



In comparison with previous systems

- Reduce number of parts
- Reduce assembly process
- Reduce tooling investment
- Reduce lead time
- Boosts technology usage

Disclosed by Bartomeu Gaya, Marta Ramis Llinares and Alberto Arredondo, HP Inc.