What is claimed is:

1. A flow substrate comprising:

a substrate body formed from a solid block of a first material, the substrate body having a first surface and a second surface opposing the first surface;

a plurality of pairs of component conduit ports defined in the first surface of the substrate body;

a plurality of fluid pathways extending between each respective pair of component conduit ports and in fluid communication with each component conduit port of the respective pair of component conduit ports, each respective fluid pathway being formed in the second surface of the substrate body; and

at least one cap formed from a second material, the at least one cap having a first cap surface that is constructed to seal at least one fluid pathway of the plurality of fluid pathways, and a second cap surface opposing the first surface, wherein the at least one cap further comprises a weld cap lip, and wherein the at least one weld cap lip protrudes above an adjacent surface of the second surface of the substrate body;

wherein the substrate body includes an opening configured to couple with the at least one cap.

~~2. The flow substrate of claim 1, wherein the at least one cap further comprises a weld cap lip.~~

~~3~~2. The flow substrate of claim ~~2~~1, wherein the weld cap lip is planar with the first cap surface.

~~4~~3. The flow substrate of claim ~~2~~1, wherein the weld cap lip is not planar with the first cap surface.

~~5~~4. The flow substrate of claim 1, wherein ~~the at least one cap further comprises a weld cap lip and~~ the substrate body comprises a substrate body lip.

~~6~~5. The flow substrate of claim ~~3~~2, wherein the weld cap lip is proximate the substrate body lip when the weld cap is coupled with the substrate body.

~~7~~6. A method of forming a substrate body comprising:

placing a weld cap proximate an opening in the substrate body;

pressing one or more of the weld cap and the substrate body with a pressing tool, wherein the pressing tool comprises a pressing element, and wherein the pressing element includes a flat surface with adjacent angled surfaces;

securing the weld cap to the substrate body through a swaged joint formed as a result of said pressing.

~~8~~7. The method of forming a substrate body of claim ~~7~~6, wherein the method further comprises welding the swaged joint.

~~9~~8. The method of forming a substrate body of claim ~~7~~6, wherein the weld cap comprises a weld cap lip ~~and the pressing element comprises a flat surface with adjacent angled surfaces~~.

~~10~~9. The method of forming a substrate body of claim ~~9~~8, wherein the weld cap lip is not planar with a first cap surface.

~~11~~10. The method of forming a substrate body of claim ~~9~~8, wherein the weld cap lip is planar with a first cap surface.

~~12~~11. The method of forming a substrate body of claim ~~11~~10, wherein the weld cap lip contacts the substrate body adjacent the weld cap lip and the pressing element contacts the weld cap lip during creation of the swaged joint.

~~13~~12. The method of forming a substrate body of claim ~~7~~6, wherein the pressing element comprises a first pressing element portion and a second pressing element portion, where the first pressing element portion contacts the weld cap and the second pressing element portion contacts the body substrate during creation of the swaged joint.

~~14~~13. The method of forming a substrate body of claim ~~7~~6, wherein the weld cap comprises a weld cap lip, the body substrate comprises a substrate body lip and ~~the pressing element comprises a flat surface with adjacent angled surfaces where~~ the flat surface of the pressing

element contacts the weld cap lip and the body substrate lip during creation of the swaged joint.

1514. The method of forming a substrate body of claim 76, wherein the pressing tool further comprises a cap holding element and wherein the pressing element comprises a wedge shape that contacts the substrate body and the cap hold holding element contacts the weld cap during creation of the swaged joint.

1615. The method of forming a substrate body of claim 1514, wherein the cap holding element comprises a spring material.

1716. The method of forming a substrate body of claim 76, where the pressing element contacts the weld cap.

1817. The method of forming a substrate body of claim 1716, wherein the substrate body comprises a square corner adjacent the weld cap.

1918. The method of forming a substrate body of claim 1817, wherein the substrate body comprises a rounded corner adjacent the weld cap.

2019. The method of forming a substrate body of claim 76, wherein the weld cap is coupled to the substrate body using an adhesive.

2120. A method of forming a substrate body comprising:

(i) placing a weld cap proximate a first opening in the substrate body, wherein the weld cap includes a weld cap lip and wherein the weld cap lip protrudes above an adjacent surface of the substrate body;

pressing one or more of the weld cap, the weld cap lip, and the substrate body with a pressing tool, wherein the pressing tool comprises a pressing element;

securing the weld cap to the substrate body through a swaged joint formed as a result of said pressing; and

(ii) placing a plug proximate an second opening in the substrate body;

pressing one or more of the plug and the substrate body with ~~a~~ the pressing tool~~, wherein the pressing tool comprises a pressing element~~;

securing the plug to the substrate body through a swaged joint formed as a result of said pressing.

~~22~~21. A method of forming a substrate body comprising:

(i) placing a weld cap proximate a first opening in the substrate body, wherein the weld cap includes a weld cap lip and wherein the weld cap lip protrudes above an adjacent surface of the substrate body;

pressing one or more of the weld cap, the weld cap lip, and the substrate body with a pressing tool, wherein the pressing tool comprises a pressing element;

securing the weld cap to the substrate body through a swaged joint formed as a result of said pressing; and

(ii) placing a tube stub proximate a~~n~~ second opening in the substrate body;

pressing one or more of the tube stub and the substrate body with ~~a~~the pressing tool~~, wherein the pressing tool comprises a pressing element~~;

securing the tube stub to the substrate body through a swaged joint formed as a result of said pressing.