a surface against which the spring 50 can act to retract the needle hub and attached needle 16 into the cavity of the housing 12. The slot 142 defines a volume 146 within which the above-described flash indicator 80 can be received.

[00049] Note that the slot 142 is configured so that differing sizes of needle can be received and affixed therein. To that end, the slot 142 includes three shoulders 148 to support the needle 16 within the slot 142. Note that the proximal edge of each of the shoulders 148 is relatively abrupt in shape so as to prevent spillage of a liquid epoxy adhesive that is placed in the slot 142 proximate the shoulders to secure the needle 16 within the slot.

[00050] Embodiments of the invention may be embodied in other specific forms without departing from the spirit of the present disclosure. The described embodiments are to be considered in all respects only as illustrative, not restrictive. The scope of the embodiments is, therefore, indicated by the appended claims rather than by the foregoing description. All changes that come within the meaning and range of equivalency of the claims are to be embraced within their scope.

CLAIMS

What is claimed is:

1. A fluid control component for use in a hub of a catheter assembly, comprising:

a body disposed within a cavity of the hub and movable between a first position and a second position, wherein the body is configured to not pierce a valve disposed in the hub when in the first position and wherein the body is configured to pierce the valve when in the second position, the body including:

a conduit to enable fluid flow through an internal portion of the body when the body is in the second position; and

a plurality of longitudinally extending ribs disposed on an exterior surface of the body, the ribs providing at least one fluid flow channel between the valve and an external portion of the body when the body is in the second position.

2. The fluid control component as defined in claim 1, wherein the valve includes a tricuspid valve including three slits.

3. The fluid control component as defined in claim 2, wherein an outer termination of each slit defines a staggered termination.

4. The fluid control component as defined in claim 1, wherein the conduit is centrally located in the body.

5. The fluid control component as defined in claim 1, wherein each rib includes a shoulder.

6. The fluid control component as defined in claim 1, wherein each rib includes a notch configured to releasably engage with an annular ridge defined in the cavity of the hub when the body is in the first position.

7. The fluid control component as defined in claim 6, wherein a proximal end of each rib includes a protrusion configured to engage the annular ridge when the body is in the second position.

8. The fluid control component as defined in claim 1, wherein each of the ribs extends radially outward from the body.

9. The fluid control component as defined in claim 1, wherein the body is configured to be moved from the first position to the second position via insertion of a medical component into the cavity of the hub.

10. The fluid control component as defined in claim 9, wherein the medical component is a luer connector.

11. The fluid control component as defined in claim 1, wherein the body includes four equally spaced ribs.

12. The fluid control component as defined in claim 1, wherein the body defines a generally conical shape.

13. A catheter assembly, comprising:

an elongate catheter tube defining at least one lumen extending between a proximal end and a distal end of the catheter tube;

a hub in fluid communication with the at least one lumen of the catheter tube; and

a fluid control component for use in the hub, comprising:

a body disposed within a cavity of the hub and movable between a first position and a second position, wherein the body is configured to not pierce a valve disposed in the hub when in the first position and wherein the body is configured to pierce the valve when in the second position, the body including:

a conduit to enable fluid flow through an internal portion of the body when the body is in the second position; and

a plurality of longitudinally extending ribs disposed on an exterior surface of the body, the ribs providing at least one fluid flow channel between the valve and an external portion of the body when the body is in the second position.

14. The catheter assembly as defined in claim 13, wherein the at least one fluid flow channel is disposed between adjacent ribs of the plurality of ribs.

15. The catheter assembly as defined in claim 13, wherein receipt of a luer connector in the cavity of the hub causes the body to move from the first position to the second position.

16. The catheter assembly as defined in claim 13, wherein the conduit is a central conduit, and wherein a proximal portion of each rib longitudinally extends proximally beyond an opening to the conduit.

17. A fluid control component for use in a hub of a catheter assembly, comprising:

a body disposed within a cavity of the hub and movable between a first position and a second position, wherein the body is configured to not pierce a valve disposed in the hub when in the first position and wherein the body is configured to pierce the valve when in the second position, the body including:

a central conduit to enable fluid flow through an internal portion of the body when the body is in the second position; and

a plurality of longitudinally extending ribs disposed on an exterior surface of the body, the ribs providing a plurality of fluid flow channels between the valve and an external portion of the body when the body is in the second position, wherein each rib includes a notch configured to releasably engage with an annular ridge defined in the cavity of the hub when the body is in the first position.

18. The fluid control component as defined in claim 17, wherein the valve includes a tricuspid valve including three slits.

19. The fluid control component as defined in claim 18, wherein an outer termination of each slit defines a staggered termination.

20. The fluid control component as defined in claim 17, wherein the conduit is centrally located in the body.

21. The fluid control component as defined in claim 17, wherein each rib includes a shoulder.

22. The fluid control component as defined in claim 17, wherein a proximal end of each rib includes a protrusion configured to engage the annular ridge when the body is in the second position.

23. The fluid control component as defined in claim 17, wherein each of the ribs extends radially outward from the body.

24. The fluid control component as defined in claim 17, wherein the body is configured to be moved from the first position to the second position via insertion of a medical component into the cavity of the hub.

25. The fluid control component as defined in claim 24, wherein the medical component is a luer connector.

26. The fluid control component as defined in claim 17, wherein the body includes four equally spaced ribs.

27. The fluid control component as defined in claim 17, wherein the body defines a generally conical shape.

28. The fluid control component as defined in claim 17, wherein the catheter assembly in which the fluid control component is included is included in a catheter insertion device.

29. The fluid control component as defined in claim 28, wherein the catheter insertion device includes a blood flash indicator, the blood flash indicator including a translucent compartment disposed about a portion of a hollow needle, the needle including first and second notches covered by the compartment.

30. The fluid control component as defined in claim 29, wherein the blood flash indicator is disposed in a needle hub, the needle hub disposed within a cavity of a housing of the catheter insertion device, the needle hub including a longitudinally extending slot in which the blood flash indicator and a portion of the needle is disposed, the slot including a plurality of shoulders configured to support the needle, wherein at least one of the shoulders includes a substantially abrupt proximal edge configured to prevent the flow of a liquid adhesive past the shoulder when the adhesive is used to secure the needle in the slot of the needle hub.

31. The fluid control component as defined in claim 30, wherein the needle hub further includes a radially extending ridge disposed proximate a proximal end of the needle hub, the ridge configured to support a spring of the catheter insertion device.

32. The fluid control component as defined in claim 17, wherein a proximal portion of each rib includes a protrusion configured to engage the annular ridge when the body is in the second position, the proximal portion of each rib being longitudinally aligned with a more distal portion of the respective rib.

33. A catheter assembly, comprising:

an elongate catheter tube defining at least one lumen that extends between a proximal end and a distal end of the catheter tube;

the catheter hub disposed at a proximal end of the catheter tube, the catheter hub defining a cavity; and

a blood control component movably disposed within the cavity of the catheter hub, the blood control component movable to an actuated position wherein the blood control component pierces a valve, the blood control component including:

a body defining a conduit; and

a plurality of ribs disposed on the body, the ribs configured to engage with leaflets of the valve when the blood control component pierces the valve so as to provide spacing between leaflets of the valve and an outer surface of the blood control component.

34. The catheter assembly as defined in claim 33, wherein the spacing between the leaflets and the outer surface of the blood control component enables fluid to flow about an exterior portion of the blood control component while the blood control component pierces the valve.

35. The catheter assembly as defined in claim 33, wherein the valve is a tricuspid valve including three leaflets, and wherein the blood control component includes at least four radially extending ribs.

36. The catheter assembly as defined in claim 33, wherein each rib includes a notch configured to engage with an annular ridge disposed in the cavity of the catheter hub.