CLAIMS

What is claimed is:

1. A latch for a downhole component, the latch comprising:

a latch stop forming a base of the latch;

a running head coupled to and extending upward from the latch stop;

a latch body circumferentially disposed about at least a portion of the running head;

a latch ring disposed circumferentially about the latch body and positioned adjacent the latch stop;

a dog assembly comprising a shaft disposed radially between the running head and the latch body and one or more dogs disposed at a bottom end of the shaft, the dogs configured to engage corresponding features in the running head; and

a lock ring disposed circumferentially about the latch body,

wherein in a locked position, the lock ring is positioned at an axial position along the latch body such that the lock ring is radially aligned and disposed about the one or more dogs, the lock ring configured to inhibit the one or more dogs from moving radially outward out of engagement with the corresponding features in the running head, and

wherein in an unlocked position, the lock ring is positioned along the latch body axially spaced from the one or more dogs, thereby allowing the one or more dogs to move radially outward out of engagement with the running head.

2. The latch of Claim 1, the latch body comprising a locking mechanism configured to engage the lock ring in the unlocked position.

3. The latch of Claim 1, further comprising a safety mechanism positioned along the running head above the latch body.

4. The latch of Claim 1, wherein the downhole component is configured to be partially received in the latch stop.

5. The latch of Claim 1, wherein the latch is configured to couple to a running tool for insertion into a wellbore.

6. The latch of Claim 1, wherein the downhole component is a gas lift valve.

7. The latch of Claim 1, further comprising one or more locking dogs coupled to the latch stop.

8. The latch of Claim 7, wherein when the latch and downhole component are installed in a downhole mandrel, the locking dogs are configured to radially expand to a deployed position to limit an axial range of movement of the latch and downhole component in the mandrel.

9. The latch of Claim 8, wherein in the deployed position, the locking dogs are configured to engage the mandrel.

10. A method for retrieving the latch of Claim 1 coupled to a downhole component from a mandrel disposed in a wellbore, the method comprising:

running a pulling tool downhole to contact the latch;

pushing the lock ring downward along the latch body to the unlocked position using the pulling tool; and

allowing the one or more dogs to move radially outward out of engagement with the running head.

11. The method of Claim 10, further comprising using the pulling tool to pull upward on the latch body, driving the one or more dogs radially outward.

12. The method of Claim 11, further comprising pulling the latch body and dog assembly upward such that the latch body disengages from and clears the latch ring, allowing the latch ring to move radially inward out of engagement with a lug of the mandrel.

13. The method of Claim 12, further comprising removing the latch and downhole component from the mandrel and wellbore.