CLAIMS

1. A fastener post assembly for securing an emergency cot to a fastener of an emergency vehicle, the fastener post assembly comprising:

a rear plate;

a front plate;

a post body comprising a post and a pair of arms;

a first locking tab and a second locking tab, each of the first locking tab comprising a hook at a first end; and

an actuator body, wherein:

the rear plate is secured to the front plate such that the pair of arms, the first locking tab, the second locking tab, and the actuator body are disposed between the rear plate and the front plate,

the first locking tab and the second locking tab are pivotally coupled to the rear plate such that they are inwardly biased toward each other, and

movement of the actuator body in a direction toward the post body outwardly pivots the first locking tab and the second locking tab away from each other.

2. The fastener post assembly of claim 1, further comprising at least one pair of actuator links, each actuator link comprising a first through-hole at a first end and a second through-hole at a second end, wherein the actuator body further comprises a main portion having at least one link seat, the main portion comprises a plurality of longitudinally aligned through-holes, and the first end of the at least one pair of actuator links is disposed within the at least one link seat.

3. The fastener post assembly of claim 2, further comprising:

a pivot pin disposed within the plurality of longitudinally aligned through-holes and the first through-hole of the at least one pair of actuator links, wherein the first locking tab and the second locking tab each comprise:

an inner surface comprising at least one groove, wherein the second end of an individual actuator link of the at least one pair of actuator links is disposed within the at least one groove; and

a hole disposed through the first end and through the at least one groove; and

a pair of first dowel pins disposed within the hole of the first locking tab and the hole of the second locking tab and through the second through-hole of the at least one pair of actuator links.

4. The fastener post assembly of any one of claims 1 to 3, further comprising a first bias member and a second bias member, wherein:

the actuator body further comprises a first bias member portion having a first bias member slot, and a second bias member portion having a second bias member slot;

the first bias member is disposed within the first bias member slot and the second bias member is disposed within the second bias member slot; and

the first bias member and the second bias member are inwardly biased toward each other by the first bias member and the second bias member.

5. A fastener post assembly for securing an emergency cot to a fastener of an emergency vehicle, the fastener post assembly comprising:

an actuator body comprising a main portion having at least one link seat, wherein the main portion comprises a plurality of longitudinally aligned through-holes;

at least one pair of actuator links, each actuator link comprising a first through-hole at a first end and a second through-hole at a second end, wherein the first end of the at least one pair of actuator links is disposed within the at least one link seat;

a pivot pin disposed within the plurality of longitudinally aligned through-holes and the first through-hole of the at least one pair of actuator links;

a first locking tab and a second locking tab, each of the first locking tab and the second locking tab comprising:

a hook at a first end and an opening at a second end;

an inner surface comprising at least one groove, wherein the second end of an individual actuator link of the at least one pair of actuator links is disposed within the at least one groove; and

a hole disposed through the first end and through the at least one groove;

a pair of first dowel pins disposed within the hole of the first locking tab and the hole of the second locking tab and through the second through-hole of the at least one pair of actuator links;

a rear plate comprising a pair of bores;

a post body comprising a post and a pair of arms, wherein the pair of arms defines a recess such that the second ends of the first locking tab and the second locking tab are disposed within the recess;

a pair of second dowel pins disposed between the opening of the first locking tab and the opening of the second locking tab, and the pair of bores of the rear plate; and

a front plate secured to the rear plate such that the pair of arms of the post body, the first locking tab and the second locking tab are disposed between the front plate and the rear plate, wherein the first locking tab and the second locking tab are inwardly biased toward each other and operable to pivot away from one another upon translation of the actuator body.

6. The fastener post assembly of claim 5, wherein:

the at least one link seat comprises a first link seat and a second link seat;

the actuator body comprises a divider that separates the first link seat from the second link seat;

the at least one pair of actuator links comprises a first pair of actuator links and a second pair of actuator links;

the at least one groove of the first locking tab and the second locking tab comprises a first groove and a second groove;

the first end of the first pair of actuator links is disposed within the first link seat and the second end of the second pair of actuator links is disposed within the second link seat; and

the second end of the first pair of actuator links is disposed within the first groove and the second end of the second pair of actuator links is disposed within the second groove.

7. The fastener post assembly of claim 5 or 6, further comprising a first bias member and a second bias member, wherein:

the actuator body further comprises a first bias member portion having a first bias member slot, and a second bias member portion having a second bias member slot;

the first bias member is disposed within the first bias member slot and the second bias member is disposed within the second bias member slot; and

the first bias member and the second bias member are inwardly biased toward each other by the first bias member and the second bias member.

8. The fastener post assembly of claim 7, wherein:

the rear plate comprises a rear bias member slot that is aligned with the second bias member slot of the actuator body such that the second bias member is disposed within both the rear plate second bias member slot of the rear bias member slot of the actuator body; and

the front plate comprises a front bias member slot that is aligned with the first bias member slot of the actuator body such that the first bias member is disposed within both the front bias member slot of the front plate and the first bias member slot of the actuator body; and

the rear plate further comprises an offset mating face, and a surface of the first locking tab and the second locking tab abut the offset mating face.

9. The fastener post assembly of any one of claims 5 to 8, wherein the actuator body comprises an actuator surface comprising a tapered surface and a planar surface.

10. A fastener post assembly for securing an emergency cot to a fastener of an emergency vehicle, the fastener post assembly comprising:

a rear plate;

a front plate comprising a front surface and a shroud extending from the front surface;

a post body comprising a post and a pair of arms;

a first locking tab and a second locking tab, each of the first locking tab comprising a hook at a first end;

an actuator body comprising an upper portion and a pair of pin slots within the upper portion, wherein:

the rear plate is secured to the front plate such that the pair of arms, the first locking tab, the second locking tab, and the actuator body are disposed between the rear plate and the front plate, and

the first locking tab and the second locking tab are pivotally coupled to the rear plate such that they are inwardly biased toward each other;

a lock button slidably disposed within the shroud, the lock button comprising a front end and a cam surface;

a slide disposed within the front plate, the slide comprising a cam follower and a pair of locking pins;

a return spring disposed between a surface of the slide and an interior surface of the front plate; and

a pair of pin bias springs operable to bias the pair of locking pins toward the upper portion of the actuator body, wherein:

movement of the lock button in a direction toward the shroud pushes the slide in a direction toward the upper portion of the actuator body by contact between the cam surface and the cam follower; and

movement of the actuator body in a direction toward the post body aligns the pair of pin slots of the upper portion of the actuator body with the pair of locking pins such that ends of the pair of locking pins are disposed within the pair of pin slots, and outwardly pivots the first locking tab and the second locking tab away from each other such that the fastener post assembly is in a locked state.

11. The fastener post assembly of claim 10, wherein the position of the ends of the pair of locking pins within the pair of pin slots maintains the fastener post assembly in the locked state and prevents the actuator body from moving away from the post body until the lock button moves in a direction away from the shroud to cause the cam follower to move along the cam surface such that the return spring moves the slide in a direction away from the actuator body.

12. The fastener post assembly of claim 10 or 11, wherein when the lock button is in an engaged state and the actuator body is in a disengaged state, the pair of pin bias springs are in a compressed state such that the pair of locking pins is pressed against a surface of the upper portion of the actuator body.

13. The fastener post assembly of any one of claims 11 to 12, further comprising at least one pair of actuator links, each actuator link comprising a first through-hole at a first end and a second through-hole at a second end, wherein the actuator body further comprises a main portion having at least one link seat, the main portion comprises a plurality of longitudinally aligned through-holes, and the first end of the at least one pair of actuator links is disposed within the at least one link seat.

14. The fastener post assembly of claim 13, further comprising a pivot pin disposed within the plurality of longitudinally aligned through-holes and the first through-hole of the at least one pair of actuator links.

15. The fastener post assembly of claim 14, wherein:

the first locking tab and the second locking tab each comprise:

an inner surface comprising at least one groove, wherein the second end of an individual actuator link of the at least one pair of actuator links is disposed within the at least one groove; and

a hole disposed through the first end and through the at least one groove; and

the fastener post assembly further comprises a pair of first dowel pins disposed within the hole of the first locking tab and the hole of the second locking tab and through the second through-hole of the at least one pair of actuator links.