

CLAIMS

What is claimed is:

1. A system for restraining a passenger in a ride vehicle, the system comprising:
 - a ride seat disposed within a ride vehicle, the ride seat comprising a seat pan, a seat back, and a side structure formed between the seat pan and the seat back; and
 - a restraint system configured to restrain a passenger against at least one of the seat back or the seat pan, the restraint system comprising:
 - a crossbar configured to be placed against the passenger,
 - at least one support bar having a first support bar end coupled to the crossbar and a second support bar end rotatably coupled to a pivot mounted to an upper-rear portion of the ride seat, and
 - a flap coupled to the at least one support bar, the flap extending in a perpendicular manner relative to an orientation of the at least one support bar, wherein the flap is configured to:
 - insert into, or extract from, a slot formed within an upper portion of the side structure when the at least one support bar is rotated about the pivot, and
 - indicate whether the crossbar has attained a minimum closed position for restraining the passenger based on a position of a marking on the flap relative to the slot.
2. The system of claim 1, wherein a location of the marking and an amount of space occupied by the marking on the flap is predetermined based on the minimum closed position of the crossbar for restraining the passenger.
3. The system of claim 1, wherein the flap is configured to indicate that the crossbar has failed to attain the minimum closed position when any portion of the marking is exposed outside of the slot.

4. The system of claim 1, wherein the flap is configured to indicate that the crossbar has attained the minimum closed position when an entirety of the marking is inserted in the slot.
5. The system of claim 1, wherein a portion of the flap occupied by the marking is visually different from a portion of the flap not occupied by the marking.
6. The system of claim 5, wherein the portion of the flap occupied by the marking is denoted by a color and the portion of the flap not occupied by the marking is denoted by a different color.
7. The system of claim 1, wherein the flap is further configured to indicate whether the crossbar is beyond a maximum closed position for restraining the passenger based on a position of a second marking on the flap relative to the slot.
8. The system of claim 7, wherein a location of the second marking and an amount of space occupied by the second marking on the flap is predetermined based on the maximum closed position of the crossbar for restraining the passenger.
9. The system of claim 7, wherein the flap is configured to:
 - indicate that the crossbar is beyond the maximum closed position when any portion of the second marking is inserted in the slot; and
 - indicate that the crossbar is within the maximum closed position and has attained the minimum closed position when an entirety of the second marking is exposed outside of the slot and an entirety of the marking is inserted in the slot.
10. The system of claim 7, wherein a portion of the flap occupied by the second marking is visually different from a portion of the flap not occupied by the second marking or the marking.
11. The system of claim 1, wherein the restraint system further comprises:

at least one rotation adapter coupled to the second support bar end of the at least one support bar, the at least one rotation adapter configured to rotatably couple the second support bar end to the pivot; and

at least one hydraulic cylinder coupled to the at least one rotation adapter, the at least one hydraulic cylinder configured to actuate the at least one rotation adapter to rotate the at least one support bar about the pivot causing the crossbar to move toward or away from the passenger.

12. A method for restraining a passenger in a ride vehicle, the method comprising:

disposing a ride seat within a ride vehicle, the ride seat comprising a seat pan, a seat back, and a side structure formed between the seat pan and the seat back; and

restraining a passenger against at least one of the seat back or the seat pan, the restraining comprising:

rotating at least one support bar about a pivot mounted to an upper-rear portion of the ride seat, the at least one support bar having a first support bar end coupled to a crossbar to be placed against the passenger and a second support bar end rotatably coupled to the pivot, wherein the rotating of the at least one support bar about the pivot causes the crossbar to move toward or away from the passenger, and

inserting a flap coupled to the at least one support bar into, or extracting the flap from, a slot formed within an upper portion of the side structure when the at least one support bar is rotated about the pivot; and

indicating whether the crossbar has attained a minimum closed position for restraining the passenger based on a position of a marking on the flap relative to the slot.

13. The method of claim 12, wherein the flap extends in a perpendicular manner relative to an orientation of the at least one support bar.

14. The method of claim 12, wherein a location of the marking and an amount of space occupied by the marking on the flap is predetermined based on the minimum closed position of the crossbar for restraining the passenger.

15. The method of claim 12, wherein the indicating comprises indicating that the crossbar has failed to attain the minimum closed position when any portion of the marking is exposed outside of the slot.

16. The method of claim 12, wherein the indicating comprises indicating that the crossbar has attained the minimum closed position when an entirety of the marking is inserted in the slot.

17. The method of claim 12, wherein a portion of the flap occupied by the marking is visually different from a portion of the flap not occupied by the marking.

18. The method of claim 12, further comprising indicating whether the crossbar is beyond a maximum closed position for restraining the passenger based on a position of a second marking on the flap relative to the slot.

19. The method of claim 18, wherein a location of the second marking and an amount of space occupied by the second marking on the flap is predetermined based on the maximum closed position of the crossbar for restraining the passenger.

20. The method of claim 18, wherein the indicating comprises:

indicating that the crossbar is beyond the maximum closed position when any portion of the second marking is inserted in the slot; and

indicating that the crossbar is within the maximum closed position and has attained the minimum closed position when an entirety of the second marking is exposed outside of the slot and an entirety of the marking is inserted in the slot.