

Latching System Design

Solar Gators Car Array Attachment

As a member at Solar Gators, a solar racing vehicle design team, I was tasked with a latching system to serve as the primary attachment method. The solar collector of the vehicle, referred to as the 'top body', is secured to the rest of the vehicle, herein referred to as the 'bottom body', using two independent methods of attachment. The primary attachment method utilizes a latching system [Fig. 33] with two rotary latches (Southco R4-50-101-10) [Fig. 1] positioned at the front and rear of the vehicle. For actuation, both latches are connected to a push button via a cable system. Both latches are mounted to the chassis and attach using small rods mounted on top body [Fig. 2].

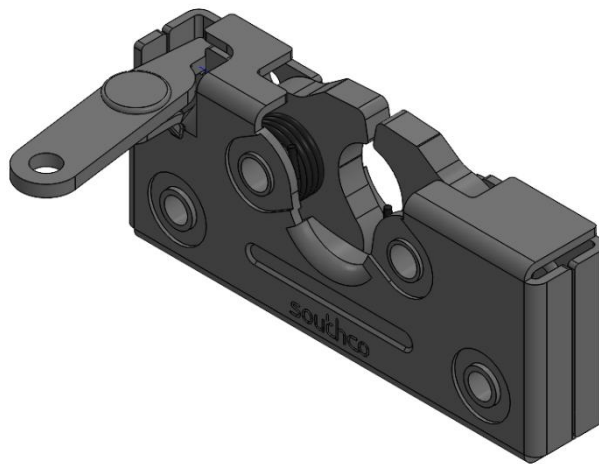


Figure 1: Primary attachment latch model.

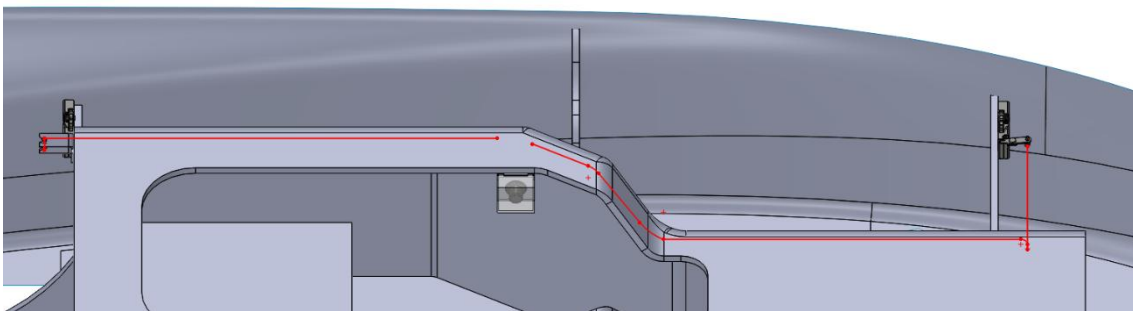


Figure 2: Primary attachment latches with cable routing (red) and actuation button (center).