

Safety		
		

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<ul style="list-style-type: none"><li>• Adjustable Head Support</li><li>• Improved Side Impact Protection</li><li>• Side Impact Tested at ADAC in Germany</li><li>• Frontal Impact Tested<ul style="list-style-type: none"><li>- US NCAP (Radian)</li><li>- Euro NCAP (Monterey)</li></ul></li><li>• Forward Facing to 80 lbs</li><li>• Rear Facing to 35 lbs</li></ul>	<p>New for 2009</p>  <p>Sunshine Kids JUVENILE PRODUCTS</p>
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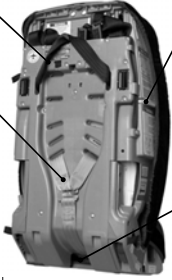
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Replaceable Tether		Reinforced Sides Lower Occupant Excursion under Side impact Loads and Provide improved protection from intrusion	
			Deeper belt pathway for easier adjustment of the harness system
			Replaceable harness system
			Sunshine Kids JUVENILE PRODUCTS

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**2009 Radian Updates**


All Radian models have undergone a significant overhaul for 2009 with many new and updated features that improve installation, ease of use and comfort



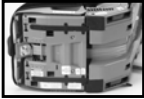
- Wider Chest Clip



- Memory Foam Padding



- Redesigned rear-facing base



- Rubber bottom grips

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**RadianXT is designed for safety.**

- Side Impact fixed barrier test
  - 28 km/hr and 18 G
  - Excellent Biomechanical Results
  - Complete Occupant Containment
  - Tested with Q series ATD and P-10 yr old
- US NCAP
  - 35 MPH 45 G
  - 85 lb ATD – Lap belt only
  - Radian
- Euro NCAP
  - 72.5 km/hr (45 MPH ΔV) and 38 G
  - Monterey

Why test NCAP, Euro NCAP, Side Impact?

- SSK has to develop standards because the requirements are very limited for the occupant above 50lbs.
- Tether constraints:
  - FMVSS 225
  - Low Usage documented by NHTSA and NGO
  - Most Car Mfgs say “no tether above ~ 50 lbs
  - Many Cars still do not have Tether Anchorage



**Fail-safe solution: Must pass with no tether – lap belt only**

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**RadianXT is designed for safety.**

FMVSS 225 requires Top Tether Anchorage to withstand ~ 1200 lbs

We cannot assume Top Tether will be part of retaining the child restraint at high loads

Sunshine Kids always recommends tether use when possible, but the reality is that the ultimate safety and fail safe solution relies in the SSK design approach

Typical Tether Loads			
ATD	213	NCAP	Overload
12 Month	1200 lbs	1454 lbs	254 lbs
3 yr	1350 lbs	1620 lbs	420 lbs
65 lb Six Yr	2000 lbs	2400 lbs	1200 lbs
85 lb 10 Yr	2200 lbs	2640 lbs	1440 lbs

**Fail safe solution is design and test seat around Lap Belt Only**

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RadianXT is designed for **safety.**




Step 1 – High strength alloy steel frame

No harness belt rip out under NCAP loads ~ 900 lbs each strap!



Step 2 – Robotically Welded to ensure optimal quality – weld locations and sizes are the same for every frame



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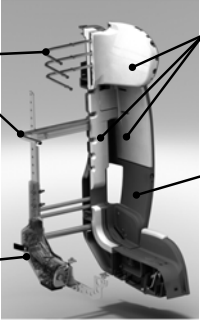
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RadianXT is designed for **safety.**




Step 3 - Integrate side impact structure to prevent intrusion and provide containment

Step 4 – Add engineered plastics in key areas of high stress

Step 5 – Incorporate EPS foam to protect Head, and Chest from impact loads

Step 6 – Add Plastic Shell made from High Impact grade plastic



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RadianXT is designed for **safety.**

Euro NCAP 45 MPH  
US NCAP 35 MPH  
Side Impact 18 MPH


Test Results:  
Chest G < 60 G  
HIC < 1000




Monterey Q-6




Monterey P-10



Radian Q-6



Monterey Q-3



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	<p data-bbox="418 443 675 491"><b>Thank You!</b></p> <p data-bbox="634 659 748 686"><small>Sunshine Kids BUSINESS PRODUCTS</small> </p>
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