

Technical Overview

Seat mounting is a critical component of the overall safety system in a competition vehicle. While Racetechn seats are engineered and tested to meet stringent FIA safety standards, their ability to perform as designed is directly dependent on the quality and integrity of the mounting system. This guide outlines the key principles, component requirements, and best practices for mounting Racetechn seats to ensure they perform as intended—delivering maximum protection, structural integrity, and driver confidence.

Testing and Validation

Most Racetechn seats are tested to FIA standards using our specially-designed side mounting brackets and some with our exclusive back mounting brackets. Test loads are applied in both lateral and rearward directions ranging from 1.6 tons to in excess of 3 tons, simulating the extreme conditions a seat must withstand in a racing impact scenario.

Installation Best Practices

Each seat incorporates engineered internal boss plates that comply with FIA requirements. These plates are designed to distribute load effectively through the seat structure, but their performance requires correctly designed external brackets and hardware. Mounting components must match or exceed the load-bearing surface area of the internal boss plates, while avoiding identical shape/profile that can concentrate stress and increase the risk of failure.

Boss Plate Specifications

- 55mm x 40mm x 1.2mm (2.2 in x 1.6 in x 0.43 in)
- Medium tensile steel plate
- M8 threaded boss

Fastener Requirements

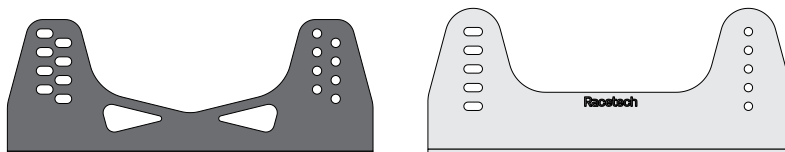
M8 12.9 grade fixing bolts and the large 22 x 3mm steel washers are provided with each Racetechn seat. High-tensile fasteners and appropriate load-distribution washers are essential to ensure the integrity of the mounting system under extreme load conditions.

SIDE MOUNTING

Racetechn brackets (strongly recommended):

RTB2009S (3mm steel)

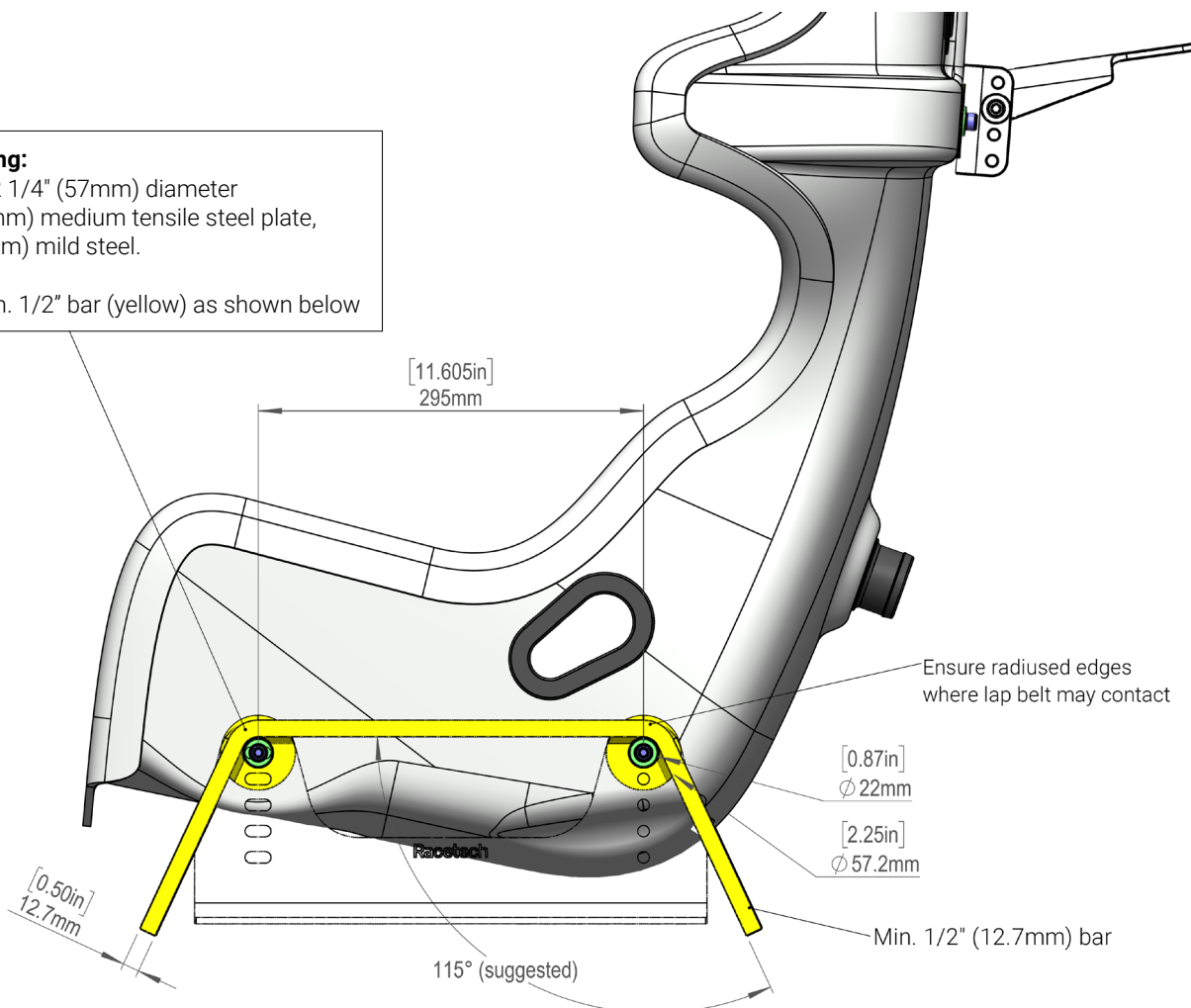
RTB1009M (5mm aluminum)



If fabricating:

Minimum 2 1/4" (57mm) diameter
1/16" (1.5mm) medium tensile steel plate,
or 1/8" (3mm) mild steel.

Weld to min. 1/2" bar (yellow) as shown below



Back Mounting and Transforming Safety

Racetech's back-mounting system, combined with our squared-shoulder seat shell architecture, increases overall seat rigidity and minimizes flex under load. This helps the seat maintain its shape and position during an impact - keeping the harness system and HANS device correctly positioned so that the driver's body remains properly aligned through primary and secondary impacts.

Back mounting the seat directly to the roll cage or chassis structure also helps maintain a safe and consistent clearance between the driver's head and surrounding structure, reducing the risk of contact with the roll cage during an incident.

Performance Benefits

Back-mounting integrates the seat into the vehicle's structure, creating a more direct connection between the driver and chassis resulting in:

- Improved chassis feedback through the seat base and back
- Increased stability under load (braking, cornering, acceleration)
- Reduced unwanted movement, allowing more precise and repeatable driver inputs

BACK MOUNTING

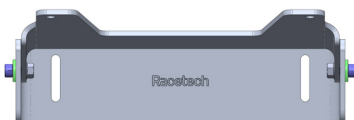
Racetech brackets (strongly recommended):

RTB1006B (fixed 6mm aluminum)

RTB2115B (fixed 5mm aluminum)

RTB3115B (adjustable 5mm aluminum)

Optional: RTB2005C clamps (to harness bar)



If fabricating:

Minimum 2 1/4" (57mm) diameter
1/16" (1.5mm) medium tensile steel plate,
or 1/8" (3mm) mild steel

