

With the success of our QR-03, we are proud to present the new QR04 Steering Wheel Quick Release. When we launched the QR-03, it was designed to withstand the extreme conditions of motorsport. However, as endurance racing and competitive driving have advanced, so have the requirements for our products. The QR-04 takes performance to the next level, offering enhanced durability, precision and reliability to meet the challenges of today's high-intensity racing.

With valuable feedback, improved expertise, and close collaboration with our customers, we have redesigned the system to incorporate key refinements. These enhancements provide increased resistance to vibrations, ensuring effortless removal for easy handling, and guarantying a secure, play-free connection in any car.

QR-04 Specs:

- Vibration resistant
- Easy handling, Easy Connection, Easy Orientation
- Easy to disconnect with one hand
- Play-free connection at all times
- Protected electrical connectors
- Made from 7075 T7

During the development of the new QR-04, all components underwent rigorous testing to ensure maximum performance and reliability. Detailed results of these tests can be found on the following pages.

The tests include the following:

- Impact Test ---- ✓
- Vice Test ---- ✓
- Torque Test ---- ✓
- Puncture Test ---- ✓
- Pull Test ---- ✓
- Shaker Test ---- ✓

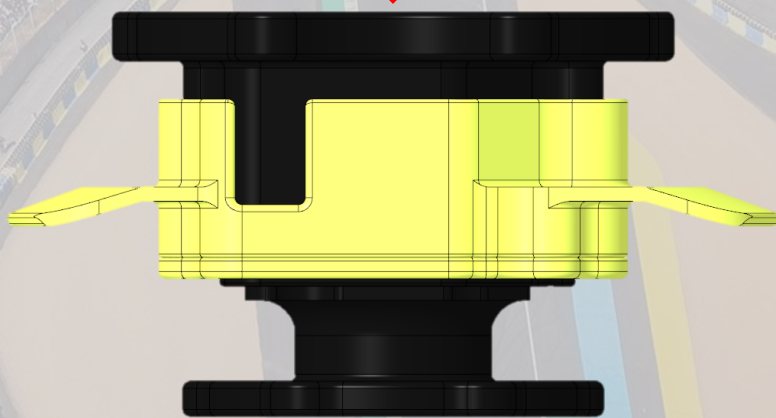


IMPACT TEST

In accordance to the FIA impact test of the steering column a solid hemispherical object with a diameter of 165mm and a mass of 8kg must be projected onto the steering column at a velocity of 7 m/s along the axis of the main part of the steering column.



7m/s

**RESULT**

The test was successfully passed. Both parts of the QR-04 remained fully functional and easy to disconnect, demonstrating their durability and reliability under extreme conditions.



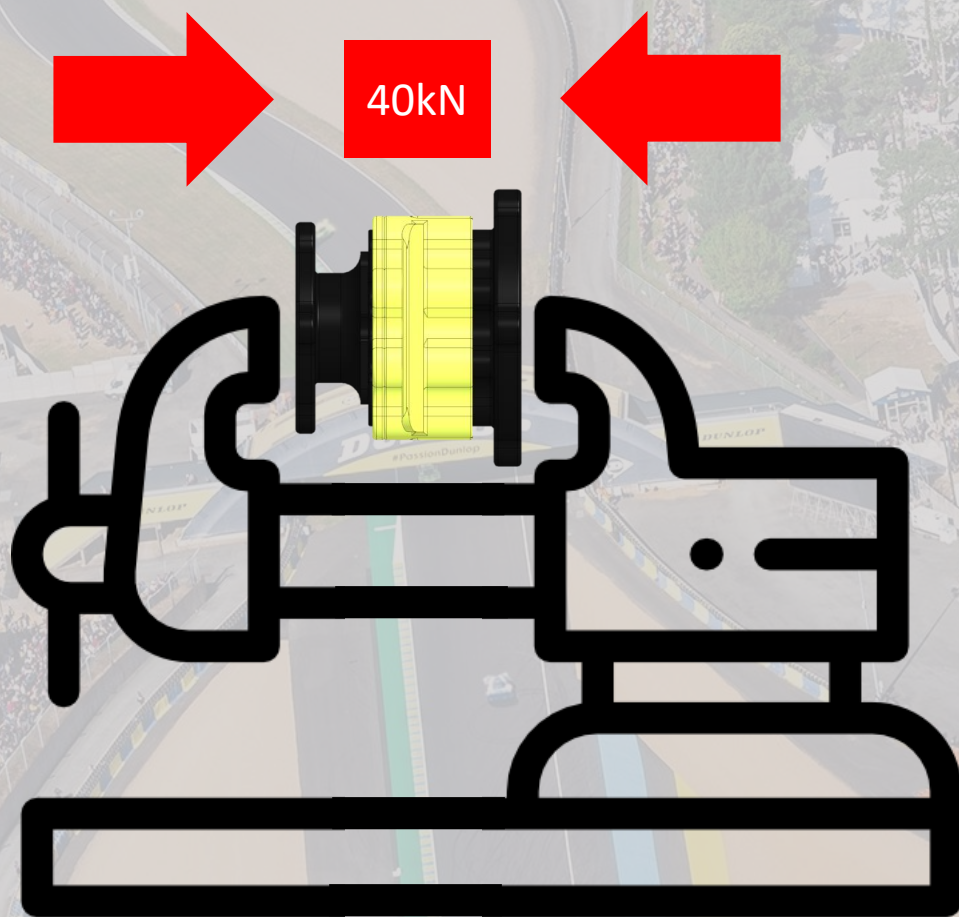
QR-04

STEERING WHEEL QUICK RELEASE

READY TO RACE / K

VICE TEST

To guarantee easy handling and ensure that the QR remains effortless to remove at all times, it is subjected to compression in a machine vice with a force of 40kN.



RESULT

Both parts of the QR-04 remained fully functional and can still be easily disconnected with one hand, ensuring optimal usability even after compression testing.



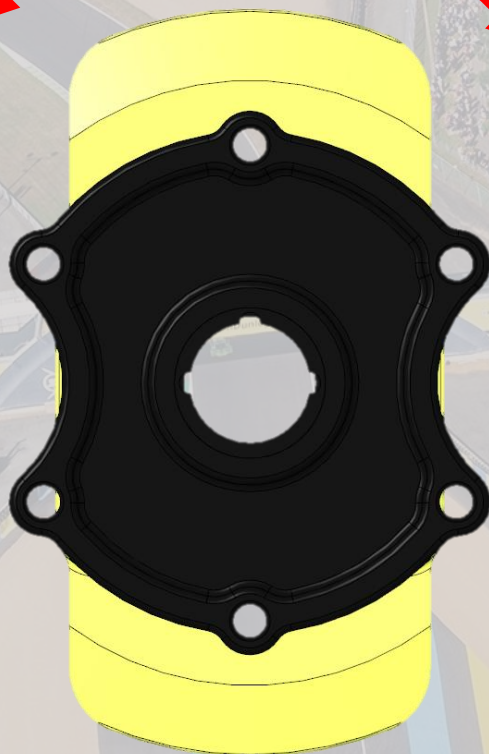
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TORQUE TEST

To verify the QR-04's ability to withstand torque, the male side is secured in a vice, and a force of 300Nm is applied to the steering wheel side.



300
Nm

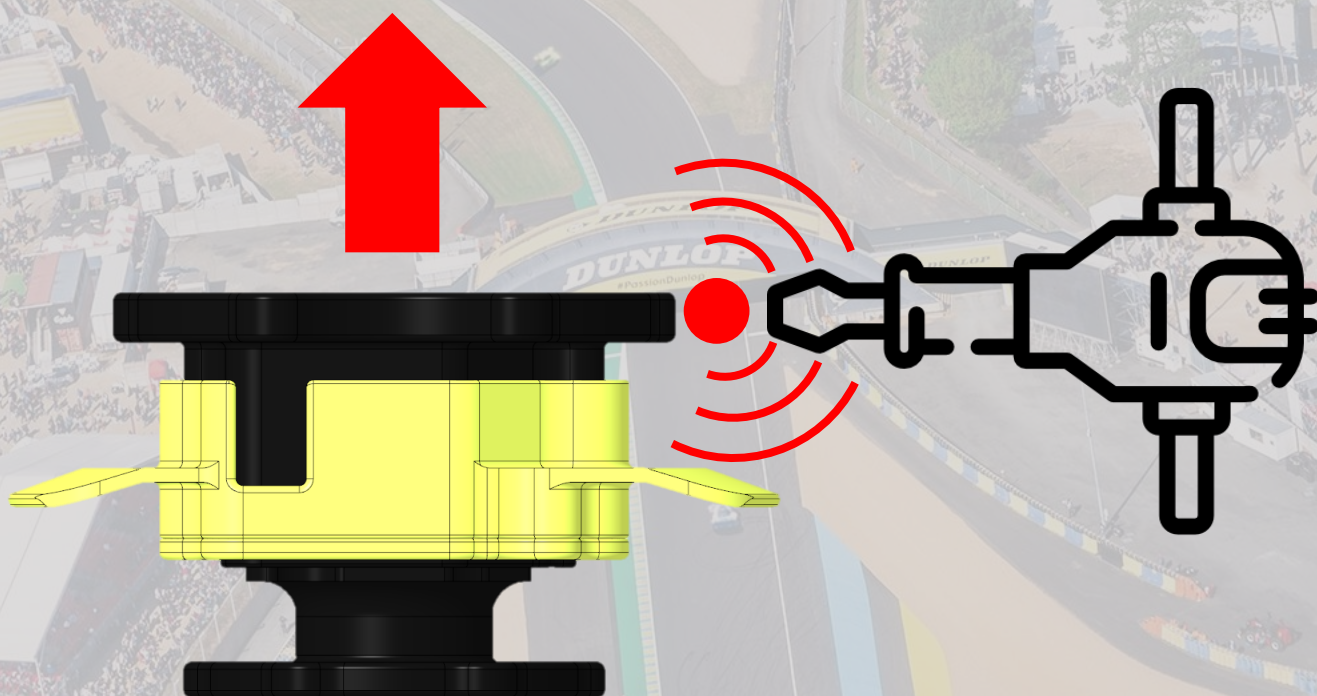
**RESULT**

Neither side of the Quick Release showed any signs of wear, play, or functional restrictions, ensuring durability and reliability under high torque conditions.



PUNCTURE TEST

A pneumatic hammer was used to deliver powerful impacts to the side of the quick release, simulating the forces experienced when a tire disintegrates after a puncture. During the test, repeated impacts were applied to the quick release while a person simultaneously pulled on the steering wheel, attempting to separate the female from the male side.

**RESULT**

It was not possible to disconnect the quick release during this test



QR-04

STEERING WHEEL QUICK RELEASE

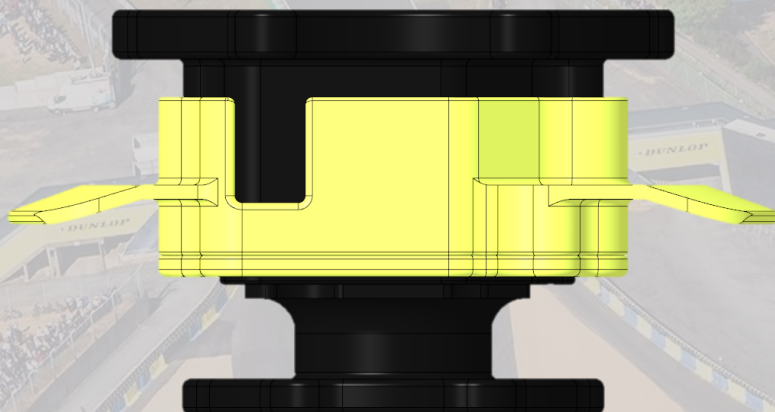
READY TO RACE / K

PULL TEST

To test the strength of the quick release locking mechanism, both parts of the QR are pulled apart using a hydraulic press. This test determines the force required to break the connection



18000 N



RESULT

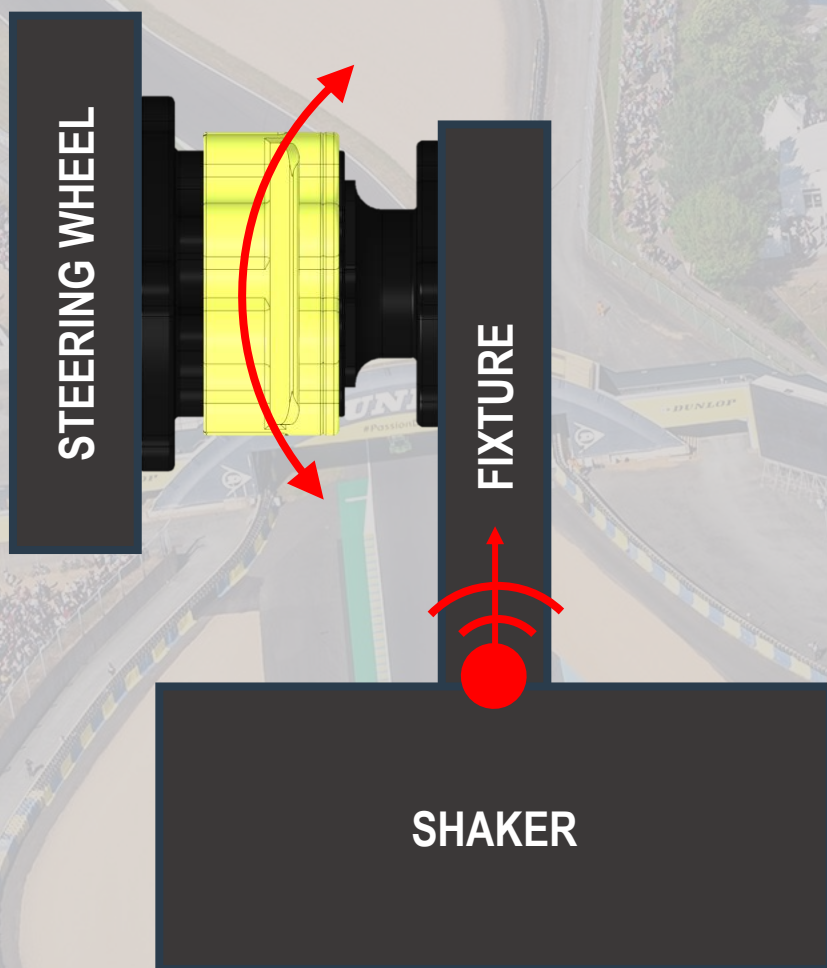
The quick release fails at 18000 N, which significantly exceeds the force a person could realistically apply. This confirms the strength and reliability of the locking mechanism under extreme conditions.



KRONTEC

SHAKER TEST

To simulate the harsh conditions inside a racecar and especially during endurance races Krontec has set up a shaker test rig to ensure the QR is able to withstand vibrations. Therefore the QR is exposed to vibrations for a total of more than 60h. The shaker ensures that the worst case scenario is achieved by stimulating the setup with the resonance frequency.



RESULT

The test was successfully passed, with the quick release showing no signs of wear. Both parts remain easy to separate, and the QR remains 100% free of play, ensuring reliability even under extreme racing conditions.



QR-04

STEERING WHEEL QUICK RELEASE

READY **IK**
TO RACE

INTERESTED?

LETS GET IN TOUCH

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Please also make sure to scan the QR Code below to
get access to further infos about the QR-04 including
customer drawings and models



Please scan for more information and feel free to
contact us: info@krontec.de

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