

**Part 573 Report – Chronology**  
**BMW**  
**Model Year 2019-2021 R1250GS/GS-Adventure/RT**  
**Model Year 2020-2021 S1000RR/XR**  
**Front Brake Calipers**  
**(Rev.1)**  
**November 5, 2020**

In 2019, BMW became aware of reports alleging fluid leaks of the front brake calipers. BMW conducted an engineering review. Because the issue did not affect brake performance, a quality-related product improvement program was implemented involving a number of production changes to the front brake calipers.

On February 18, 2020, NHTSA's Office of Defects Investigation (ODI) contacted BMW regarding complaints the agency received alleging front brake caliper leaks involving BMW R1250 motorcycles. BMW requested a meeting with NHTSA to discuss the issue which would include engineering and technical development efforts. NHTSA also indicated that they intended to open a Preliminary Evaluation (PE) to explore this issue.

On April 1, 2020, NHTSA published the PE Opening Resume and, on April 7, 2020, NHTSA sent BMW the PE's Information Request (IR) letter.

Between April and June, BMW collected information and prepared a response to NHTSA's IR. On May 29<sup>th</sup>, and on June 29<sup>th</sup>, BMW provided its response to the agency. BMW's response stated that the issue that is the subject of the IR does not pose an unreasonable risk to motor vehicle safety.

In brief, the extensive testing and analyses conducted by BMW showed that the weeping effect occurs when the motorcycle is parked, and is due to a small incompatibility between the seal groove of the brake caliper and the inner seal due to the surface roughness of these components. It is a low-pressure condition that does not occur with brake actuation (pressure applied to the inner seal, piston, and seal groove) because the fluid loss (leak) path is closed. It will also not cause a spontaneous and unexpected loss of brake pressure while riding when the front brakes are actuated.

BMW also conducted FMVSS 122 dynamic (riding) tests with early-generation suspect "leaky" calipers. These tests involved varying levels of brake fluid in the brake fluid reservoir, and in some cases with only the front brakes actuated. The tests showed that there was no material effect upon FMVSS 122 dynamic (riding) brake performance. In all cases, the stopping distances were well within the FMVSS 122 performance requirements. In these tests, there was no observable brake fluid leaking during and after completion of all tests.

In addition, an "extreme" test (front brake calipers soaked in brake fluid) was conducted; both the vehicle acceleration, and the brake lever hand force, results were well within the FMVSS 122 requirements.

On July 28, 2020, NHTSA's Office of Vehicle Safety Compliance (OVSC) contacted BMW to discuss the issue. OVSC indicated, after a review of the field data submitted in the PE response, the subject motorcycles may not fully conform to FMVSS 122 Section 5.2.3, specifically after completion of a compliance test, a front brake caliper may start to leak.

After the discussion with NHTSA's OVSC, BMW conducted further reviews and analyses to understand the basis for NHTSA's position.

On August 6, 2020, BMW decided to conduct a voluntary non-compliance recall.

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**BMW has not received any reports, nor is BMW otherwise aware, of any accident or injuries associated with this issue.**

**In late September, BMW became aware of a Model Year 2020 R 1250 RT motorcycle in which the front brake calipers exhibited signs of leaking. In October, BMW and NHTSA discussed this case and, on October 21, 2020, BMW performed an inspection of the motorcycle in which NHTSA observed.**

**In addition, warranty claims were reviewed for motorcycles produced after March 1, 2020 in which claims were processed for front brake calipers that exhibited signs of leaking.**

**After further reviews and analyses, it appeared that the current version of the front brake calipers could start to exhibit leaks.**

**On October 29, 2020, BMW decided to include these additional potentially affected motorcycles in the recall and, to reexamine and revise the remedy for motorcycles identified and included in BMW's August 13, 2020 filing.**