

August 12, 2022 – January 18, 2023 – Internal production intermittent, non-repeatable issues being investigated.

January 19, 2023 – Spartan received notice from Final Stage Manufacturer of repeatable potential delay when engaging the park brake.

January 23-26, 2023 - Truck on campus identified, Engineering and Quality participated in testing due to new information on how to replicate issue. Emails sent to Wabco looking for insight on issue.

January 26, 2023 - Implemented quality alert and new inspection process for production based on new information from Final Stage Manufacturer.

January 27, 2023 – Completed warranty review and no issues found at end user.

February 2, 2023 – PSR opened and problem solving team identified.

February 3, 2023 – PSR team had kick-off meeting.

February 13 – 28, 2023 - Spartan Engineering instrumented trucks and collected data. Wabco Engineering asked to setup meeting to review Spartan Engineering test data. Spartan Engineering requested onsite visit with Wabco Engineering.

March 1, 2023 - Had meeting with Wabco to review findings from Spartan Engineering testing.

March 2, 2023 - Wabco Engineering came onsite to review the instrumented truck, data and road test vehicle. Took valve from production that showed no visible grease and 3 valves found with issue at Final Stage Manufacturer to review.

March 9, 2023 – Setup follow-up meeting with Wabco Engineering on returned valves.

March 15, 2023 - Met with Wabco to review current test data and sending back parts. Wabco Quality agreed to review returned parts and start a weekly meeting with Spartan and Haldex (Wabco Supplier).

March 16 – 29, 2023 - Returned parts to Wabco and Wabco Quality began root cause testing.

January - April 5, 2023 - Spartan Engineering continued to instrument vehicles and test to help determine root cause and test repeatability.

Beginning of March - End of May 2023 - Spartan returned multiple parts to Wabco Quality for various types of inspection and testing.

Beginning of March - August 2023 - Various types of inspection and testing on returned parts by Wabco Quality and Haldex Quality / Engineering; which included BOB/WOWs, X-Rays, System test board, component part inspection, amount of grease, dimensional analysis, etc.

April 17, 2023 – Wabco Quality and Haldex were able to replicate sticking in the inversion valve. Planned to complete more testing.

May 2, 2023 – PSR team completed Fishbone of all potential causes and sent to Supplier for review.

May 11, 2023 - Haldex end of line tester updated to test for release time. Wabco will ensure all parts are identified with green dot on data tag for certification.

June 7, 2023 - Spartan received certified parts from Wabco and started installing them into production.

June 15, 2023 – Spartan completed 2nd warranty review and no issues found at end user.

August 24, 2023 – Supplier reviewed X-ray results with Wabco and Spartan teams. Spartan PSR team updated PSR and risk assessment. Team reviewed the current information and the issue presented as an infantile issue.

August 31, 2023 – Reviewed warranty one last time and found recent claims found at the end user. PSR team updated risk assessment.

September 5, 2023 – Spartan escalated the issue to REV Group Management.

September 6, 2023 – Stop ship issued.

September 7, 2023 – REV's senior leadership approved a voluntary recall for this issue.