



## **Bosch Brake Campaign 50901-C FAQ's**

### **Q. What is the potential defect with brake calipers installed on units involved in Campaign 50901-C?**

**A.** The brake calipers can stick in the applied position, causing the brake to drag which may result in abnormal heat generation at the wheel end. Vehicles that experience these concerns may have the affected calipers that would exhibit phenolic pistons with an increased diameter. Change in caliper piston size is due to the absorption of moisture, which when combined with heat, can prevent the piston from releasing normally. Clear evidence of this concern would appear through residue on the piston dust seal/boot and/or caliper (cracking may also be present in the piston boot) and heat damage to the ABS system wheel speed sensors.

### **Q. What are the warning signs of a brake caliper failure?**

**A.** Please reference the Glove Box Card sent with the first interim notice for a list of common warning signs. To view or order a free copy of the Glove Box Card go to [www.workhorse.com/brakeresourcecenter](http://www.workhorse.com/brakeresourcecenter). A caliper failure can cause a temperature increase at the wheel end and eventually lead to the following conditions: soft/mushy pedal, brake burning smell, one or more brakes dragging, smoke at the wheel end and, possibly, a small wheel end fire.

### **Q. What is the final remedy for Campaign 50901-C?**

**A.** There has been a change in the caliper piston material which will resolve the moisture intrusion into the piston causing the diameter growth. The solution is a newly designed and tested phenolic piston material that will not absorb moisture and swell. Bosch is currently tooling to begin manufacturing approximately 200,000 brake calipers. Owners will be notified by mail once sufficient parts are available to begin Campaign 50901-C, at which time, four new brake calipers will be installed on vehicles involved in this campaign.

### **Q. Is Bosch or Workhorse Custom Chassis responsible for the final remedy?**

**A.** Workhorse has worked diligently with our current brake supplier Bosch and the National Highway Transportation Safety Administration (NHTSA) to identify and correct the problem through extensive testing and development of a revised brake caliper. Bosch is tasked with design, engineering, tooling and production of the final remedy caliper as they are the supplier of these brake components to Workhorse. Workhorse will review, evaluate and authorize brake repairs on a case by case basis and will conduct Campaign 50901-C.

### **Q. When will new style brake calipers be available to complete Campaign 50901-C?**

**A.** The production phase will begin shortly and Workhorse will need to accumulate roughly 50% of these parts prior to launching Campaign 50901-C. You will be notified by mail once the remedy parts are available.

### **Q. Why is it taking so long to obtain the final remedy for Campaign 50901-C?**

**A.** Workhorse and Bosch have been diligently working on a solution. It took extended evaluations to correctly identify the failure of the calipers and why the pistons can lock into the bores. Once the problem was identified, Workhorse and Bosch commenced testing using different piston materials in RV applications which may be stored for extended periods of time thus causing additional testing and evaluation time. This testing is now complete and Bosch is nearing the production phase.

### **Q. Should I schedule an appointment to have this campaign performed?**

**A.** No. The parts are not currently available and the interim notice letter that you received was to notify our customers that a brake campaign is forthcoming and that there is a possible safety concern. You will receive a letter notifying you once sufficient stock of parts is available and Campaign 50901-C has become active.

### **Q. What if I have received an interim campaign letter, have not experienced a failure with my brakes but want my unit inspected?**

**A.** If a customer wants their vehicle inspected, the customer must authorize the teardown and inspection charges. If a **caliper failure** is identified during the inspection, Workhorse will cover the inspection charge, along with the pre-authorized wheel end repair.

**Q. Is it an indication of a brake caliper failure if my ABS lamp intermittently comes on or stays on continuously?**

**A.** An ABS lamp coming on is NOT a guaranteed indicator that the caliper has failed. There are many possibilities that may cause an ABS lamp to illuminate including; the ABS speed sensor being out of adjustment, related wiring concerns or possible ABS speed sensor overheat. To properly diagnose this type of concern, it is recommended the vehicle be taken to an Authorized Workhorse Service Center. If during the inspection it is determined that the ABS concern was caused due to a **caliper failure**, Workhorse will cover the inspection charge along with the pre-authorized wheel end repair.

**Q. Is it an indication of a brake caliper failure if during an evaluation of the brake system, the brake rotor(s) show signs of short radial cracks in the rotor surface?**

**A.** Short radial cracks on the rotor surface that come in contact with the brake pads are known as "Heat Checking" and are caused by heating and cooling of the disc during normal operation. Existence of these short radial cracks is not an indication that there is a **caliper failure**. This type of heat checking does not justify caliper replacement and /or rotor replacement.

**Q. Is it an indication of a caliper failure if during an evaluation of the brake system, the brake rotor(s) show signs of a large radial crack that migrates through the outer surface of the rotor through to the cooling fins?**

**A.** A large radial crack that is cracked through the rotor face will need to be replaced. Although, without any other evidence that would indicate that a caliper has failed this would not be covered by Workhorse. If a large radial crack is noted and the following conditions are also noted, then a **brake caliper** failure is possible and the rotor replacement would be considered collateral damage. Such conditions may include: Severe brake pad material transfer onto the rotor surface, dust boot degradation around the caliper piston, ABS sensor that has melted, front hub oil cap that is leaking or a wheel seal that has failed. Workhorse will cover the repair with pre-authorization for the affected wheel end.

**Q. Will I still need to have Campaign 50901-C performed if I have had an interim repair done and am not experiencing any concerns with my brakes?**

**A.** Yes, customers will be notified by mail once the remedy parts are available and they should schedule to have the campaign completed at an Authorized Workhorse Service Center at that time. When the forthcoming campaign is released, the remedy will be to install 4 new brake calipers with a different piston material that is impervious to moisture absorption.

**Q. What do I do until Workhorse notifies me that new calipers are available and the campaign has begun?**

**A.** Should you experience any of the warning signs (reference Glove Box Card for symptoms) and/or excessive heat at the wheel ends, we advise that you contact Workhorse Roadside Assistance at (877) 946-7731. They will make arrangements to have your local Authorized Workhorse Service Center evaluate your RV's braking system. If you have not experienced any of these signs, continue using your RV as normal.

**Q. Can I have the campaign completed if I am traveling and do not have the letter notifying me Campaign 50901-C has begun?**

**A.** Yes, once the campaign becomes active, Authorized Workhorse Service Centers will show all involved units in their systems and owners will not need to present a letter to have the campaign performed. Additionally, Workhorse Custom Chassis has created a webpage dedicated to Campaign 50901-C at [www.Workhorse.com/brakeresourcecenter](http://www.Workhorse.com/brakeresourcecenter). This page will be continually updated with campaign information. You can also register and verify if your RV is involved in the forthcoming campaign on this site.

**Q. What can I do now to prevent having a concern with my brakes?**

**A.** Along with driving the motor home to minimize periods of extended storage; proper brake system maintenance is also a known preventative measure. The present caliper design is successfully used in many medium duty truck applications with higher braking /heating cycles and less stationary usage than most RVs. For additional information on brake maintenance, mountainous driving, towing and general brake information, please go to our document library at [www.workhorse.com/brakeresourcecenter](http://www.workhorse.com/brakeresourcecenter) .

**Q. How long do the interim repairs last?**

**A.** The interim repair is to replace the caliper(s) with a new or remanufactured current design. The moisture absorption /growth of the caliper piston can take up to 3 years, pending drive cycles and climate conditions in your area.

**Q. Why was my brake related repair denied by an Authorized Workhorse Service Center?**

**A.** Not all brake inspections or brake repairs are the result of the failed brake calipers. Brakes are wearable items and maintenance related repairs are NOT warrantable. We have sent all Authorized Workhorse Service Centers a bulletin outlining the tell tale signs on proper brake system evaluation.

**Q. Will Workhorse pays to have a customer's unit towed to an Authorized Workhorse Service Center?**

**A.** If the vehicle is inoperable due to a **caliper failure**, towing to the **nearest Authorized Workhorse Service Center** will be authorized. Some tell tale signs of a caliper failure are:

- Brake burning smell
- Smoke coming from a wheel end
- Soft brake pedal
- Oil leak at a wheel end
- ABS lamp stays on continuously
- The unit loses power and/or starts to shutter.

**Q. Can I seek reimbursement for a prior brake caliper repair?**

**A.** If a customer has previously replaced a brake caliper on a motor home chassis involved in this forthcoming campaign, they may be eligible for reimbursement on certain repairs made between **November 16, 2007 and June 15, 2009**. The customer should send the following information to Workhorse:

- All associated repair orders
- Proof of ownership (registration or title)
- Proof of payment for each repair order submitted (credit card receipt, cancelled check-both front and back, bank statement-showing check cashed/debit card used, etc.)
- A letter stating the circumstances behind the repair and a written request for reimbursement.

All required reimbursement information should be sent to:

***Workhorse Custom Chassis  
Attention Campaign Center  
850 Stephenson Highway, Suite 510  
Troy, MI 48083-1174***

**Q. How long will it take after submission for reimbursement before I can expect a response?**

**A.** The customer will receive a written response from Workhorse Custom Chassis **within 60 days** providing that all proper documentation has been submitted. If all the proper documentation has not been received; Workhorse will provide a letter to the customer requesting additional information that will delay final review and resolution to the reimbursement request.

**Q. Why will Workhorse Custom Chassis not consider repair orders that happened before 11/16/07 for reimbursement if they fit the criteria?**

**A.** The NHSTA requirement is that the manufacturer is responsible for the reimbursement of repairs during the investigation period and until the campaign is completed. The date of 11/16/07 corresponds to the date that the NHTSA investigation was opened. ***Repairs made prior to November 16, 2007 are not eligible for reimbursement.***

**Q. Will I be reimbursed for labor, taxes, disposal, freight, collateral costs, etc?**

**A.** The amount of reimbursement will be based on the amount paid and/or the costs of parts plus applicable labor. Costs for parts will be limited to the retail price for authorized parts. Any taxes or cost for disposal of wastes and freight will be included in the reimbursement. Workhorse will not reimburse owners for collateral costs such as but not limited to: lost wages, car rentals, airfare, hotel, food / dining, etc.