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MEMO

Date: 01/26/2015

To: School Transportation Providers

From: Lt. Brian Reu

Subject: Inspection Item Update

During annual and roadside inspections, performed by the Office of Pupil Transportation Safety, our staff has identified a concern with the abnormal corrosion of brake rotor surfaces and the deterioration of brake surface pads on hydraulic braking systems of school buses. These observations have raised concern regarding the loss of braking performance in an emergency brake situation. Based on these observations I contacted the school bus manufactures to seek input from their perspective.

In discussions with two of the brake engineers, it was confirmed the braking system is not performing as designed to ensure maximum braking potential as designed and immediate corrective action must be taken to address the situation. While the engineers could not pin point a single specific cause of our observations they suggested it may be related to but not limited to; brake rotors not being resurfaced (turned) when new pads were installed, improper fitting of the brake pads, caliper slide pins not functioning or maintained properly per the manufactures recommendations causing them to bind or a brake caliper piston issue.

Attached is an electronic version of a brake inspection manual published by Honeywell which states, "The faultless performance of the brakes disc, as a 'friction partner', to brake pads is crucial to the efficiency of all other components of the braking system (as it is one of the parts subjected to the heaviest brake load in the entire system)".

As shown in the following pictures, the brake pad fails to maintain a solid or full contact with the brake rotor surface as required, resulting in the loss of maximum braking potential as designed.



Brake components discovered in this condition will be documented as “defective” and the school bus placed out-of-service per the Minnesota School Bus Inspections Standards. Please note, light “surface rust” resulting from a vehicle sitting for short periods of time *will not* be considered in violation.

Thank your for your attention in the matter.