February 11, 2020

**Technical Bulletin:** MTIS by PSI Equipped with ThermALERT® (UPDATED)

This document is to clarify the operational characteristics of the ThermALERT feature that is standard on all PSI automatic tire inflation systems.

This highly reliable feature is specifically engineered to activate at a predetermined temperature that is well above normal trailer wheel end temperatures, but below what a ‘catastrophic’ wheel end failure would experience. The basic principle behind the feature is that a screw in the axle end plug contains a eutectic metal core that melts instantaneously at the predetermined temperature. This is the same principle used in fire sprinkler systems used in millions of commercial buildings today.

**What to Expect When Activation Occurs:**
Once a particular wheel reaches the predetermined critical temperature or flash point, the core of the ThermALERT screw will melt, releasing system air pressure from within the axle through the axle end plugs, into the hub cavity and out the vent holes in the hub cap in a continuous flow. As directed in PSI maintenance manual, any time that the ATIS indicator light is illuminated during vehicle operation, the driver should pull over at the next safe opportunity and identify whether they have a tire issue or a wheel end thermal event. Identification of a thermal event can be easily determined by sensing elevated heat from the hub and air escaping from under the thru-tee vent. In some cases, identification may be aided by an audible noise emanating from the wheel end.

**What Not to Expect When Activation Occurs:**
The feature is designed to help prevent collateral damage to the wheel end, axle, and suspension. Assuming that the operator is able to park the vehicle quickly, you should NOT expect typical ‘wheel end failure’ damage, such as discoloration of the spindle, secondary bearing failures, or related characteristics. Consequently, it is easy to misdiagnose an activated plug as melting at a lower temperature than designed.

**What to Do After Activation Occurs:**
Replace the ThermALERT screw (ref: PSI Manual T001-01) and have the affected wheel end inspected by a qualified technician, taking the necessary steps for repairing. We recommend using the following TMC RP’s as a guide:

- RP 622A – Seal and Bearing Removal, Inspection and Maintenance
- RP 644A – Wheel End Condition Analysis Guide
- RP 618A – Wheel Bearing Adjustment Procedure
- RP 640A – Alternate Wheel Bearing Adjustment Procedure
- RP 631B – Recommendations for Wheel End Lubricants

**Note:** The ThermALERT feature will not be active if the system is turned off at the main control box or deactivated in any way.