| Reference: | Revision: | TIRE FAILURE DUE TO ELECTRICAL CONTACT |
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## 1.0 INTRODUCTION

Tires should not be considered to be an insulator. Electrical contacts higher than 1000 volts may cause severe burning of the rubber. Those burns could be internal or external and could be localized in the areas where the current went through.

Due to overheating of the rubber and instantaneous heat-inducted gas combustion inside the tire, the inflation pressure can rapidly increase (300 to 450 psi), which could result in a tire failure. Such a failure would be much more violent than a blow-out. Other factors must be considered: the ambient temperature, the degree of humidity in the air, the electrical resistance of the tire, and the area in contact with the power line. The tire could fail immediately, in 15 minutes, one hour, or after several days, depending on the damages done to the casing cords or to the bead bundle.

## 2.0 PROCEDURE

The following measures **must** be taken if a tire has been exposed to extreme heat by electrical contact or fire.

**Caution – Do not approach the tires at anytime during combustion.** See Figure 1 for a diagram of the high risk area.

If the tires do not fail instantly , allow the tires to cool down for at least **one hour** before attempting any examination.

The Garage Supervisor or the Fleet Maintenance Supervisor **must** be contacted immediately to arrange for a float and a vehicle inspection. Before loading on the float, check air pressure to ensure there was no unusual pressure build-up. Adjust accordingly.

The vehicle **must not** be driven on the highway after electrical contact has been made. It is to be floated to the nearest service center for a detailed inspection.

Once at a repair facility, replace the tires. Always deflate the tires before attempting any inspection of a potentially damaged tire, even a cursory inspection of the treads. To deflate the tires, remove the valve core. All tires must be disposed off. They are to be returned to a tire retailer for disposal.

The chassis and the mounted equipment (aerial, digger, or crane) must be inspected by a qualified mechanic. The following items are to be inspected:

Dry "A" inspection of the chassis including lights.

The wheel bearings **must** be inspected for pitting and replaced as required.

Dry "A" on the mounted equipment.

Hoses – to see if they have been burnt or blistered. If so, they are to be replaced.

The point of contact and any other burnt areas **must** be inspected.

**FIGURE 1**