

# **BRASS TROUBLESHOOTING TIPS**

**1. WHEN RUNNING BRASS ENGINES AND ROLLING STOCK AND YOU HAVE A PROBLEM, SUSPECT A SHORT FIRST. MOST BRASS PROBLEMS ARE TRACED TO AN ELECTRICAL SHORT. OPEN CIRCUITS ARE ALSO A SOURCE OF ELECTRICAL PROBLEMS.**

**2. TENDER TRUCKS SWIVEL AND CAN GET ROTATED DURING HANDLING. THIS CAUSES THE INSULATED WHEEL TO BE ON THE OPPOSITE SIDE CAUSING A DEAD SHORT. CHECK TENDER TRUCKS FOR PROPER INSULATED WHEEL ORIENTATION.**

**SUGGEST A SMALL PAINT DOT BE USED TO SIGNIFY INSULATED SIDE. PAINT THREE DOTS, HIDDEN FROM VIEW, ONE ON EACH TRUCK INSULATED SIDE AND ONE ON THE TENDER BOTTOM, SAME SIDE AS THE INSULATED SIDE.**

**3. CHECK FOR LOOSE SCREWS AND NUTS USED TO COMPLETE AN ELECTRICAL CIRCUIT. THEY SOMEHOW GET LOOSE DURING USE AND CAUSE INTERMITTENT CONTINUITY, WITH STOP AND GO OPERATION.**

**TIGHTEN THEM.**

**4. BRASS WHEEL SETS (BOLSTERS) AND METAL WHEELS HAVE A SMALL CLEARANCE BETWEEN THEM AND IF BENT OR MOVED CAN CAUSE A SHORT BETWEEN THE INSULATED PART AND THE FRAME CAUSING A SHORT. THIS CAN BE AN INTERMITTED SHORT DEPENDING ON DIRECTION OF TRAVEL.**

**ADJUST THE FRAME; INSULATE WITH TAPE, OR SHIM TO PREVENT THE SHORT.**