

Installation of External Shunts for Bochum 54, 84 and 2000 Series Resilient Wheels

(Replaces Service Bulletin #1100-0004)

CLEAN CONTACT SURFACES

1. After tire is properly aligned and installed on wheel center it is vital that both the contact surfaces for the External Shunts are clean and free of protective coatings, paint or rust. Lacquer thinner can be used to clean off any protective coating on the wheel assembly. Emery cloth 80 grit is recommended for cleaning paint or rust from both contact surfaces. It is **EXTREMELY IMPORTANT** that contact surfaces be as clean as possible.



continued

APPLYING ANTI-OXIDANT JOINT COMPOUND

2. Locate the squeeze bottle of Morris Anti-Oxidant Compound Part No. 99901 provided with the truck retire kit.

On the underside of the shunt terminals, apply a bead of Morris Compound in a circular path around the bolt hole.



continued

APPLY LOCTITE

3. Apply Loctite 242 to the shunt mounting bolt threads. Loctite 242 is commercially available locally and is not provided in the truck retire kit.



INSTALL SHUNTS

4. Align shunts over proper locations on the tire and wheel center, and insert the Loctite-coated bolts and torque to proper value listed.

Cap Screws	Torque
10 – 24	5 ft./lbs.
¼ – 20	6 ft./lbs.
M 6	6 ft./lbs.
M 8	14.6 ft./lbs.

Nuts (used with weld studs)	Torque
¼ – 20	6 ft./lbs.
M 6	6 ft. /lbs.

Care should be exercised not to over-torque the shunt fasteners.



NOTE: If using external shunts with weld studs, similar preparation is also necessary for good conductivity.

continued

RESISTANCE CHECK

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5. A Thompson Bridge, AEMC Corporation Model #141.100 or Rhopoint Corporation M210 Resistance Meter is recommended. PMC's preference is the Rhopoint M210.

To perform resistance testing, the wheel or wheel set should be either raised or electrically isolated from the rail. (Isolation may not be required, depending on your individual rail isolation.)

Isolation from the rail can occur by rolling the wheel set up onto a rubber mat, or similar non-conductor.

The tire and center should be cleaned with 80 grit emery cloth and mild solvent in an area where readings are to be taken. Good contact is essential for an accurate reading. At least two (2) tests should be performed to verify your reading.

Measure the resistance of the tire to center. **The resistance reading should be less than 0.005 ohms. If the resistance is not less than 0.005 ohms**, remove the external shunts and install new shunts. Recheck for proper resistance. **RESISTANCE VALUES MUST MEET SPECIFICATION PRIOR TO GOING INTO SERVICE.**

Consult Service Bulletin #998-0001 latest revision for further details on resistance testing.



Warning

Loss of continuity can affect train control, system signaling or vehicle grounding and could cause serious injury.

If you have any questions regarding this Service Bulletin, please contact Penn Machine.



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