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# **SYDNEY TRAMWAY MUSEUM**

## **WESTINGHOUSE BRAKE VALVE MAINTENANCE PROCEDURE**

MAY 2009

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# Document Control Record

**1. Document Details:**

**Name:** Westinghouse Brake Valve Maintenance Procedure

**Number** STM6106

**Version Number:** 1.0

**Document Status:**  Working Draft

Approved for Issue

Archived

**Next Scheduled Review Date:** \_\_\_\_\_

**2. Version History:**

Version Number	Date	Reason/Comments
1.0	22/05/2009	Initial issue

**Approved by** \_\_\_\_\_ **Signature & Date** \_\_\_\_\_

**3. Distribution List**

Position	Date	Copy Issued to (Yes/No)	Copy No.	Received
Rail Safety Manager		Y	1	

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### WESTINGHOUSE BRAKE VALVE MAINTENANCE PROCEDURE

From WH Pubs.

The spindle should be oiled periodically at *screw (item 44)* (see drawing on next page) but over oiling should be avoided, as oil is detrimental to the spindle gasket.

At running “maintenance periods”, the brake valve should be completely disassembled and the operating mechanism examined for wear.

#### **Disassembling and Reassembling of Brake Valve**

Remove the piston body portion by undoing the 4 *holding nuts (item 3 on the drawing below)*. This portion may then be withdrawn complete.

**NOTE:** The piston body portion *(item 42)* should be removed before the spindle guide *(item 34)* is removed and on assembly is to be fitted *after* the spindle guide.

The inlet valve assembly can be removed by unscrewing the valve seat *(item ??)*; then remove the valve collar *(item 36)* and spring *(item 40)*. The valve should be examined and if necessary, ground in.

To remove the piston and valve assembly, undo lock *nut 26* and piston spring adjusting *nut 24*. The assembly can now be withdrawn.

The exhaust valve *(item ??)* should be examined and if necessary, ground in.

Examine piston packing *cup (item 20)* and renew if it is cracked, brittle, cut or thin at any point or otherwise defective. The cylinder bore should be cleaned with Kerosene or another suitable solvent and any traces of rust removed with fine emery cloth.

Particular care should be taken in replacing the piston and exhaust valve. The piston packing cup should be smeared with *Alvania No. 1 grease*.

The piston should be entered into the bore slightly askew and worked in with gentle pressure, at the same time gently turning the piston.

#### **ON NO ACCOUNT MUST THE PACKING CUP BE FORCED IN.**

The spindle guide-bonnet should be removed by undoing the 4 *nuts (items 6 and 7)*. The spindle *(item ??)* should then be removed and the spindle washer removed *(item ??)* if cut, cracked etc. It should be smeared with *Alvania No. 1 grease* or equivalent and also *cam 36* before replacing it.

Before replacing the piston body portion, the *fulcrum pin (item 5)* should be removed. The yoke and balance lever assembly should then be taken out.

The 3 rollers, *cheese head pin (item 31)* and the *fulcrum pin (item 33)* should be cleaned and lubricated with thin oil and replaced.

Before replacing the piston body portion, *gasket (item 46)* should be examined and replaced if defective.

After reassembling, the full service and emergency adjustments, *see pub C6 (??)*, should be carried out under pressure with the valve in full service position. It should be covered all over with soapy water and checked for blows (bubbles).

The handle should be put in the release position and the pressure in the straight air pipe should be zero. Increments of 5 lbs in application and release should be obtainable.



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