

TECHNICAL BULLETIN

Ref Document No.	TB13001	Issue No.	1
Subject	Park Brake Valve – Failure to Apply		
Release Date	21 st October 2013		

Purpose

To advise machine owners of possible malfunction of the park brake valve, DMS Part No. 5520000166.

Applicability

Applies to all COALTRAM® CT08, CT10 and CT13 vehicles.

Background

Three incidents have occurred where the park brake valve has failed to return to the spring offset position after the pneumatic signal was released.

The faulty valves were removed from the machines and sent to the distributor for detailed investigation.

Investigations/ Findings

All three valves were dismantled by the distributor to determine the cause of the failures.



Figure 1 – Assembled Valve

The cause of the malfunction in the valves was a lack of lubrication and misalignment of the end cap and pilot piston assembly. A cut away view of the end cap and piston assembly is shown in Figure 2 below.

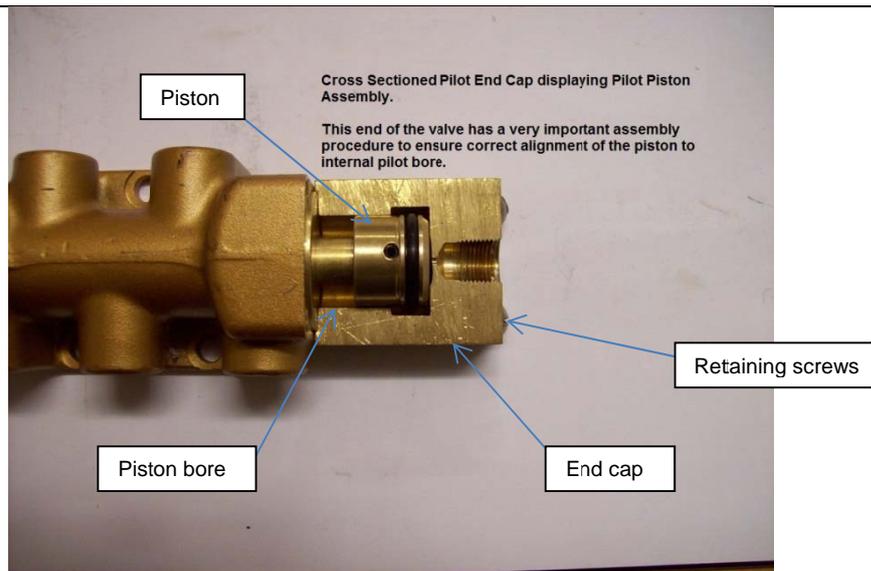


Figure 2 - Cross Section Pilot End Cap/Piston Assembly

The pilot piston to spool connection is a floating design which allows the piston to centralise and align itself when entering the pilot end cap bore upon actuation. Both the pilot piston & pilot end cap were measured & complied with the respective manufacturing drawings. Whilst the pilot end caps were without the 2mm x 45 degree internal pilot bore chamfer (recently introduced at the end of 2012 to improve the operation of the pilot assembly, but not rendering the original pilot end caps as unusable) the lead in edge was relieved of any sharp edges.

One VERY IMPORTANT assembly procedure with the pilot end of this V657 valve assembly is that when you fit the pilot end cap to the main 4 way valve section the valve MUST be actuated (pulled up). This will engage the pilot piston within the bore of the pilot end cap thus aligning & centralising the assembly. With the valve actuated the 4 retaining screws should be tightened.

Recommendations

1. Remove park brake valve from Coaltram at next available service opportunity, remove end cap, lubricate with Dow Molykote 55 O-ring grease and reassemble with appropriate alignment when reassembling.
2. Ensure all maintenance staff are made aware of correct assembly technique for fitting pilot end cap as per above description.
3. Complete park brake tests as per service sheets.
4. Refer SWP CT6.51 Park Brake Valve Lubrication for checking and lubricating park brake pilot end cap and piston.

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