

SAFETY BULLETIN

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Subject	Steer Amplifier Valve		
Release Date	11 th February 2015		

Purpose

To advise COALTRAM® owners of an unplanned movement that occurred when a vehicle turned (articulated) without steering wheel or joystick actuation.

Applicability

All COALTRAM® vehicles.

Background

A COALTRAM® being driving slowly began articulating gradually without the operator actuating the joystick or steering wheel.

Information

During normal operation as well as at the time of the incident above, when the park/emergency brake is applied the steer circuit will dump all pressure to tank immediately. When the park/emergency brake is applied the only way to turn the COALTRAM® is by turning the steering wheel, which will act as a pump.

This means that if an operator is to exit the cab the park/emergency brake will be engaged either manually by the operator or through the door interlock removing the possibility of the COALTRAM® articulating when the operator is outside the cab.

Whilst completing maintenance on COALTRAM®'s the articulation lock pin should also be installed as per COALTRAM® operator manual.

This incident has occurred on two COALTRAM®'s, both with less than 2,000 hours. 102 COALTRAM®'s have been produced with this steer amplifier valve.

Investigation / Findings

The steer amplifier valve was found to be the cause of the unplanned steering actuation. The valve was sent to the supplier where it was determined that the spring assembly to main spool was loose and the retaining socket head cap screw had come adrift by 2.5mm. This created a path to allow pressure to flow to the steer cylinders, articulating the vehicle.

The rectification for this was to Loctite the socket head cap screw to the main spool at the appropriate torque.

From February 2014 the supplier of the valve added quality steps to the valve assembly procedure to ensure the socket head cap screw is retained with Loctite. Pre February 2014 there was no Loctite applied. Through the serial number it is possible to trace when the valve was assembled.

Recommendations

1. Check steer amplifier valve for affected serial number range:
 - a. The first three or four numbers are the critical numbers in the serial number. The first two are the year it was manufactured in, the third and possibly fourth numbers are the month of that year (depending on which month it was made in). For example AU122995645 means it was built February 2012;
 - b. Steer amplifier valves assembled after February 2014 will not require any dismantling, COALTRAM® should be used as normal;
 - c. Steer amplifier valves assembled before February 2014 should follow recommendations two and three below.



Figure 1: Serial Number

2. Check operation of steering:
 - a. Clear area where COALTRAM® can be driven without obstacles or pedestrian activity;
 - b. Start COALTRAM® and release park brake;
 - c. Straighten articulation so vehicle will drive in a straight line;
 - d. Drive forward with hands removed from steering wheel and joystick;
 - e. Repeat test in reverse;
 - f. If vehicle drives straight in both directions continue to use COALTRAM®;
 - g. If vehicle steers (articulates) away from straight tag out COALTRAM®. A risk assessment may need to be completed to drive the vehicle safely to a workshop.
3. At the next 1,000 hour service for each COALTRAM® with a steer amplifier valve in the affected serial number range, remove the steer amplifier valve spool and Loctite the spring retaining socket head cap screw to the spool using procedure attached.

Note: Vehicle will require cleaning around the valve before the replacement can occur.

4. The Loctite quality checks on new steer amplifier valves are done specifically for PPK, therefore, new valves may not have had quality checks completed if not purchased from PPK.
5. If more information is required please contact your PPK service centre.

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