

Automatic Emergency Parking Brakes (AEPB)

A scoop was recently cited for non-compliance of 30CFR 75.523-3(b)(2). If the machine's hand pump was used to release the AEPB when the scoop was off, when the scoop was re-energized, the AEPB would not reset until one of the hydraulic functions was operated. The AEPB was restored to normal operation when a hydraulic function was operated.

The automatic functioning required by 30 CFR 75.523-3(b)(1) and (2) was rendered inoperative when the hand pump was used to release the AEPB under certain circumstances. Listed are the steps to be taken to determine compliance:

1. Turn off the scoop and block the wheels to prevent movement of machine.
2. Check that the parking brake pressure gage reads zero indicating the AEPB is set.
3. Operate the hand pump to release the parking brake. The pressure gage will indicate pressure to show that the brake is released.
4. Turn on the machine and allow the pump motor to run but do not operate any hydraulic controls or apply the service brakes. To comply with 30 CFR 75.523-3(b)(1) and (2), the pressure gage should drop to zero releasing the pressure indicating the AEPB is applied.
5. If the parking brake pressure gage does not drop to zero to engage the AEPB, the brake system will need to be brought into compliance. If the AEPB did not engage, operate a hydraulic function or the service brake to release the pressure and apply the AEPB.

The scoop can be brought into compliance by different methods. Two methods that have been used:

1. A supplementary pilot control valve is added to the hydraulic system.
2. The hand pump is replaced with an updated version that incorporates the pilot control cartridge.

Please contact a field representative for assistance in correcting the non-compliance.

Attached for reference is a service bulletin that is being distributed by Bucyrus addressing this issue on Long Airdox 400 and 600 Series Scoops. The potential malfunction of the AEPB, however, may not be limited to this manufacturer only.



Bulletin

Automatic Emergency Parking Brake (AEPB) 400 & 600 Series Scoops

AEPBs on some Bucyrus (former Long Airdox) 400 & 600 series scoops may not automatically reset when the hand pump is used to release the AEPBs when the scoop is off. This could be associated with a number of issues, including component wear, or deviations from the original hydraulic circuit design. In such cases the AEPBs will be reset only when the scoop is re-energized and one of the hydraulic functions is operated.

Automatic functioning of AEPBs is required under Title 30CFR 75.523-3(b)(1) and (2). To insure compliance and correct operation, any 400 & 600 series scoops originally manufactured according to Bucyrus hydraulic schematics #220534, L-410181X20 or L-012334X1 must be maintained in accordance with Bucyrus hydraulic schematics #220534, L-410181X20, Revision "E", and L-012344X1, Revision "D". These revised schematics incorporate special notes which describe the potential issues with the AEPBs, and define the part number and installation procedure for a valve which will operate at very low pilot pressures.

The following inspection can determine if a scoop's AEPBs are in compliance:

1. De-energize the scoop and block the wheels to prevent movement.
2. Check that the AEPB pressure gage reads zero indicating the AEPB is set.
3. Operate the hand pump to release the AEPB. The pressure gage will indicate pressure to show that the AEPB is released.
4. Energize the scoop and allow the pump motor to run, but do not operate any hydraulic controls or apply the AEPB.
5. To be in compliance, the pressure gage should drop to zero releasing the pressure, which indicates the AEPB is applied.
6. If the AEPB pressure gage does not drop to zero to engage the AEPB, the scoop's brake system needs to be brought into compliance. Operate a hydraulic function to release the pressure and apply the AEPB.

Please contact a Bucyrus field representative for assistance in correcting any scoops with AEPBs that do not comply with the regulations.

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