GE Mining
Industrea

ADDENDUM TO BULLETIN 34180

AUTOMATIC BRAKE FUNCTION

UPON MINECRUISER SERVICE BRAKE FAILURE

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Prepared for: Industry

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AFFECTED VEHICLES: MineCruiser Mk7 & Mk6 TBS 095324

BACKGROUND:

In Bulletin 34180, owners and operators were asked to test the automatic brake function upon loss of service brake pressure. This Bulletin provides additional information that was gathered during the investigation of this issue and suggests corrective actions where necessary, in respect of the following:

1. Brake Reservoir Drain Valve Connections
2. System Pressure Loss Detection Pilot Valve
3. Service Brake Pressure Loss Detection Improvement

1. Brake Reservoir Drain Valve Connections

GE Mining has been made aware that on some MineCruiser machines, service brake air reservoir drains have been connected to a common drain point. Although this may reduce maintenance time, interconnection allows the failure of one drain circuit to cause the failure of service brakes on both axles. This configuration is not compliant with the original registered design and reduces the safe system operation.

IMMEDIATE ACTION: Correct Any Non-Compliant Plumbing

The service brake pneumatic control air reservoir drain circuits for each axle must be individually routed to separate drain valves and not interconnected in any way.

2. System Pressure Loss Detection Pilot Valve

For detection of service brake pneumatic pressure loss, it is critical that the system pressure loss detection pilot valve is operating within specification. If the pressure loss detection pilot valve is not operating within specification, the automatic brake function for application upon loss of service brake available pressure may be compromised.

The automatic brake function incorporates a 3-port, 2-position pneumatic pilot valve (Identified in the diagram as item 23). The valve is piloted via service brake available system pressure. When piloted, pressure is supplied to Park Brake Valve HY00433 (Item 24), enabling brake release. When de-piloted, pressure is drained from Park Brake Valve HY00433, initiating brake application. If the pressure at which the 3/2 valve de-pilots is less than that specified in the original design, application of the automatic brake upon loss of service brake control pressure may be delayed or prevented.

NOTE: This condition does not affect manual application of the emergency brake or other automatic brake functions.

IMMEDIATE ACTION: **Test Detection Pilot Valve**

NOTE: This procedure should be reviewed in accordance with any site safety policy and be subject to a job specific Risk Assessment or Job Safety Analysis in accordance with Mine Manager's Rules or site policy.

The valve may be tested on the machine via the method previously described in Bulletin 34180. This procedure is repeated in steps 1 through 5 below and is designed to confirm that the Park/Emergency Brake actuation valve activates prior to machine shutdown between pneumatic control system pressure range 280 - 225 kpa (Note: Activating at a pneumatic control system pressure higher than this is not cause for concern but should be within a reasonable tolerance).

CONFIRM activation of automatic braking system and engine shutdown when system air pressure approaches the lower limit. This should occur between 280-200 Kpa.

This can be done by the following procedure in a non-hazardous flat area:

1. Isolate the vehicle from movement via wheel chocks or appropriate means to prevent movement forward or backwards.
2. Seated in the driver's seat with the driver's door closed, start the vehicle and allow it to run at low idle.
3. Once air system pressure has stabilized, release the park brake.
4. Record the system pressure at which the brake applies and machine shuts down, by having an assistant open the brake reservoir drain valves, and record the system pressure at which brake applies and machine shuts down.

Compressed air will escape from the drain valve outlet and reduce available service brake pressure.

The vehicle should do the following:

- Apply the automatic brake between 280-225 kpa system air pressure
- Run for a short period of time and then shutdown.

5. Close the brake reservoir drains and ensure service brake is restored.

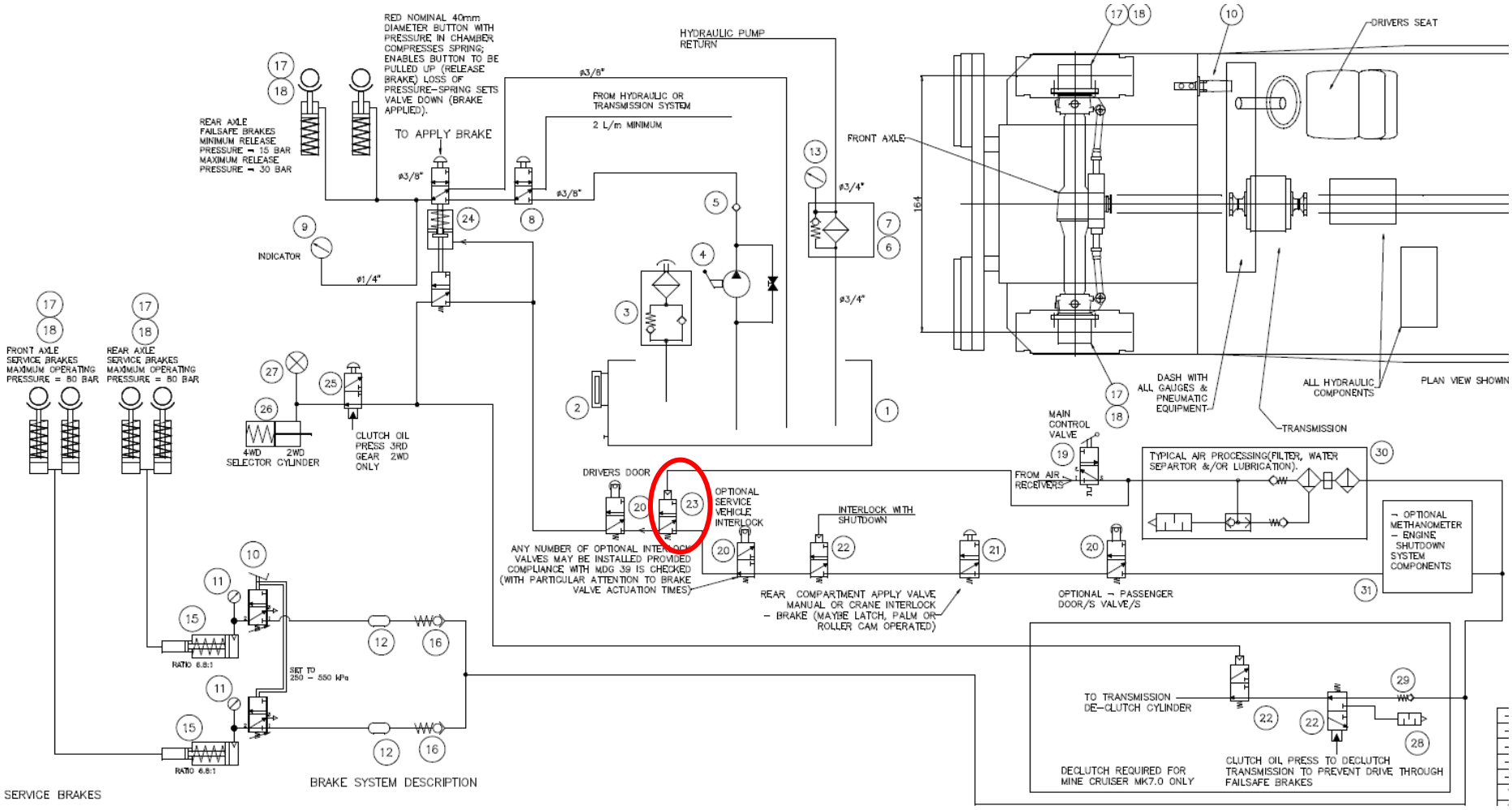
If the Automatic Brake fails to apply in the range specified prior to engine shutdown or the engine fails to shut down

- Contact a GE Mining representative to review the machine system operation.
- Place out of service tag in a visible location such as on the start controls or isolation valve in accordance with site specific procedures.
- Follow the Mines Defect Safety Management plan.

If faulty, the detection valve (DE03035/ AR00067) indicated below should be replaced with a conforming product.

If any stock of this valve is held by owners, they should be quarantined.

Please contact GE Mining to make arrangements to have those quarantined valves inspected.

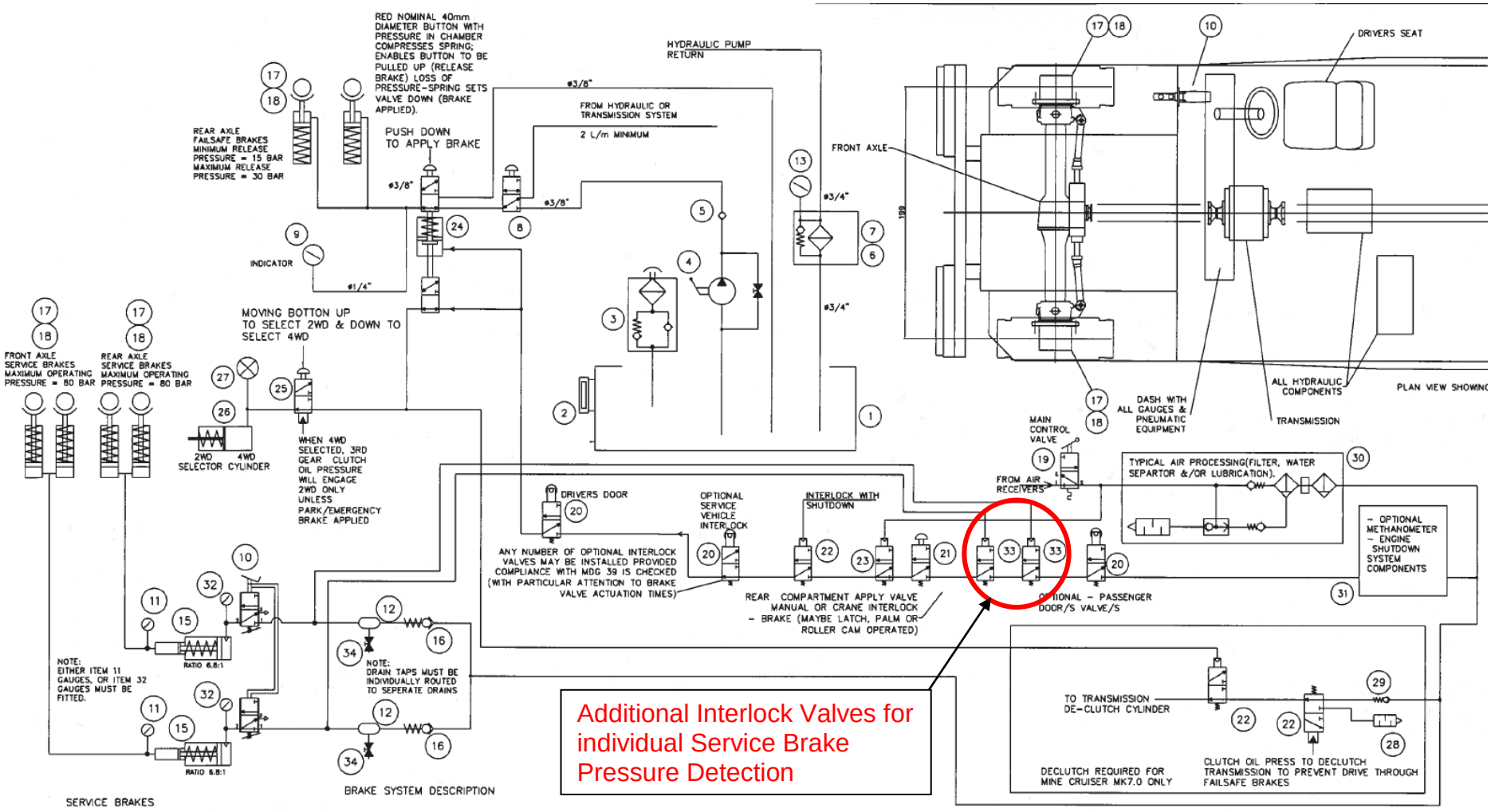


Registration drawing for Transport Braking System 095324-2: System Pressure Detection Pilot Valve indicated above

INFORMATION

3. Service Brake Pressure Loss Detection Improvement

An improved configuration for detecting loss of pneumatic control system pressure is recommended for fitment at the next available service opportunity. This improvement monitors pneumatic control pressure for each axle independently. When performed by authorised GE Mining personnel, this modification may be implemented on existing vehicles under the current Transport Braking System Approval. The system diagram below shows the detection valve addition. A revision to the existing Transport Braking System Approval **095324** is in process and will be communicated once issued to include this improvement for future installations.



Service Brake Pressure Detection Improvement: Individual Detection Valves

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