

Safety Alert 106

Seal Failure – Near Miss Oil Injection

This Safety Alert has been issued to inform the users of Alfabs Equipment the possible risk of injury to personnel caused by the failure of seals used on cartridges installed on the Alfabs QDS BOAR Bolters

Event

During the operation of a QDS Bolter (fitted with a Hydraulic Controls Valve Bank), an operator was sprayed with hydraulic oil while operating the dead man control on the Valve bank. Upon investigation by the Owner of the bolter it was discovered that a cartridge back-up seal located on the Left Hand side of the valve bank had failed allowing for the escape of high pressure oil in the proximity of the operators hand. The operator was cleared of any injury.

Failed Back-up Seal



Failed Cartridge



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Recommendations

Alfabs Mining recommends the following actions to reduce the possibility of potential injury to personnel and unplanned down time:-

- Alfabs QDS Boar Bolters are returned to Alfabs for the recommended 2 year overhaul to be completed as per the attached.
- A systematic inspection by End Users / Owners of all exposed cartridges for possible signs of poor integrity of seals/back-ups.
- For Hydraulic Controls Boar Bolters, the Fitting of Guard (BB-102359) to reduce operator exposure.

Notes

Please ensure all relevant personnel in your organisation receive a copy of this Safety Alert, and are informed of its contents and recommendations. This Safety Alert should be processed in a systematic manner through the mines information and communication process which should include being displayed on notice/information board.

For any questions or queries please contact



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General Bolter 2 year Overhaul

Tasks	
Decommission	
Strip off all hoses and discard	
Remove Rig	
Remove Rig Support	
Remove Actuators	
Remove all decals	
Remove all Sharp edges / General Tidy up	
Remove floor grating	
Sand blast for NDT	
NDT All Rudd lugs and QDS	
Supply new Rig mount bolts & tie Wire	
Supply new Rig Support bolts	
Supply new Actuator Bolts	
Supply new hoses and fittings	
Supply new Decals and signage	
Clean - re tap Threads	
Refit Actuators	
Refit Rig Support	
Refit Rig	
Hose up	
Fit New Signage and decals	
Function Test / Commission	
Costs	\$28,075 + GST

Repairs to critical components

Tasks	
Overhaul Rig,	
• Replacing all seals. • Bolts • Wear Components	
Costs	\$11,370 + GST (See below for inclusions)

Optional Extras

(No allowance to perform the below works)

Full Blast & Paint	\$6,615 + GST
Overhaul Valve Bank	\$7,690 + GST (See inclusions below)
Overhaul Actuators x 2	\$10,801 + GST (See inclusions below)
Overhaul Mesh Jack Cylinders	\$1,480 each + GST (See inclusions below)
Overhaul Stability Jack Cylinders	\$2,007 each + GST (See inclusions below)
Overhaul TSRU	\$3,246 + GST (See inclusions below)
Overhaul HDR32	\$2,728 + GST (See inclusions below)

Extra Repairs Required

[illegible]

Overhaul Rig inclusions

- Strip Rig
- Linish Guide Rods
- Linish Timber Jack Rods
- Hone Timber Jack Bores
- Test Head Plate
- Reseal load hold cartridges
- Strip Feed Cylinder
- Pressure Test Small Rod
- Linish Feed Cylinder Rods
- Hone Bores
- Polish Glands
- Polish Pistons
- Assemble Cylinder
- Test Cylinder
- Assemble Rig
- Test
- Paint
- Supply New Rollers and Bushes
- Supply New Wear Strips
- Supply New Timber Jack Guide Bushes
- Supply New Fasteners
- Supply New Seals

*** Any other parts found to be damaged or worn will be quoted separately

Full Blast & Paint inclusions

- Remove and refit Gates, Covers, Storage
- Remove and refit 2 x stab and 2 x Timber jacks
- Remove and refit Valve Bank
- Remove and refit Hydraulic components in QDS (cooler / Filter)
- Delivery to paint shop
- Full Blast and Repaint
- Delivery back to workshop

Overhaul Valve Bank inclusions

- Remove valve bank from BOAR
- Strip, Clean, Assess
- Measure Bores
- Linish Spools
- Polish all Lever Box Shafts
- Lap all faces
- Reseal all cartridges
- Bench Test "C" Top Valves
- Assemble
- Test
- Paint
- Supply New Fasteners
- Supply New Fittings
- Supply New Seals
- Refit valve bank to BOAR

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Overhaul Actuators inclusions

- Strip
- Clean and Inspect all Components
- Reseal and Test Load Hold Cartridges
- Assemble
- Test
- Paint
- Supply New Fasteners
- Supply New Plugs and Fittings
- Supply New Bearings
- Supply New Seals

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Overhaul Mesh & Stability Jack Cylinder inclusions

- Remove Cylinder from BOAR
- Strip
- Machine Hone Barrel
- Linish Rod
- Polish Gland
- Polish Piston
- Reseal load hold cartridges
- Assemble
- Test
- Paint
- Supply New Fasteners
- Supply New Seals
- Re fit Cylinder to BOAR

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Overhaul TSRU inclusions

- Strip
- Pre-Test Motor & Report
- Linish Gear Box Shafts
- Clean and Inspect all Gears
- Reseal Kick Down Valve
- Reseal Relief Valve
- Assemble
- Test
- Paint
- Supply New Fasteners
- Supply New Gearbox Oils
- Supply New Bearings
- Supply New Bearing Retaining Nut
- Supply New Gaskets
- Supply New Seals

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Overhaul HDR32 inclusions

- Strip
- Pre-Test Motor & Report
- Linish Shafts
- Clean and Inspect all Components
- Reseal SIG cartridge
- Assemble
- Test
- Paint
- Supply New Fasteners
- Supply New Bearings
- Supply New Bearing Retaining Nut
- Supply New Seals

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