



Belvac Production Machinery Technical Bulletin

Information for Customers Operating & Maintaining Belvac Machines

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590A, 595K and 595SK MODULAR AUTOLUBE GREASE HARDENING

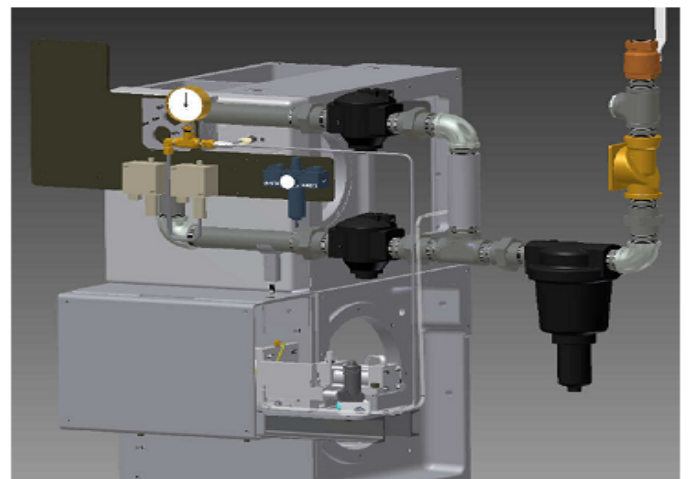
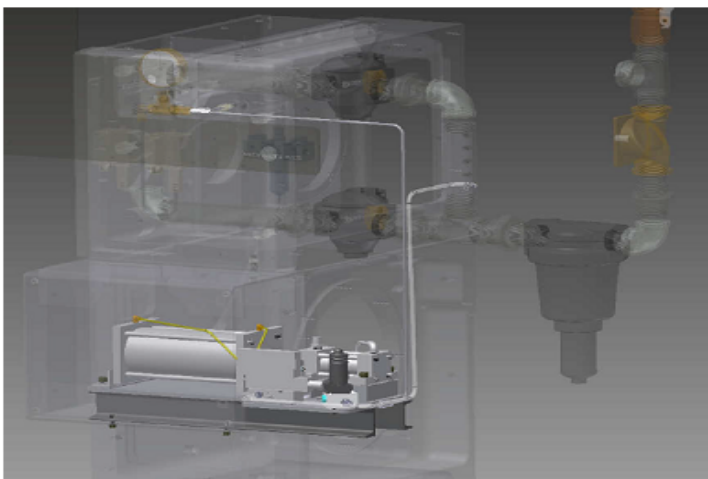
Reports of grease hardening in autolube system injectors have been reported at various customer locations. Belvac has worked with our injector and grease specialists to determine the cause of grease hardening, as well as the means to prevent future occurrences.

Belvac's standard grease, Exxon Mobilux EP1, has proven to be robust for the autolube system for many years. For proper operation, this grease (and many others) must not remain under pressure for long periods of time, else the oils will separate from the thickener (soaps), causing hardened residue to take place. The residue is prone to take place where gaps are small: e.g. around O-Rings and in injectors.

Normal operation of the autolube system allows for depressurization via the grease pump's internal vent valve, after a lube event has concluded. Pressurized grease returns to the reservoir under internal residual pressure, thru the valve and into the reservoir. This process is automatic and free of housekeeping issues.

Testing and observation on production machinery has shown variations in the system's ability to depressurize to zero after an autolube event. The cause of the variation from plant to plant, as well as machine to machine, is likely due to grease temperature, machine length, internal grease pump vent valve operation and other variables. It is also possible grease conditions vary from plant to plant (Ref. "Preservation of Grease Quality" Technical Bulletin #11, Vol. 11, Sept 2008).

For systems undergoing grease hardening, Belvac has designed a means to effectively resolve this with the addition of an upgradable air operated hydraulic reservoir at the end of the autolube circuit as seen in the following:





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This upgrade operates simply as follows:

1. Prior to a lube event, the hydraulic reservoir actuates by dispensing grease from a hydraulic cylinder into the autolube circuit, after which a 2-way valve is energized to prevent backflow of grease to the hydraulic cylinder.
2. The machine autolube event takes place as usual via the Lincoln pump.
3. At the end of the autolube event, the Lincoln pump shuts off, allowing the internal vent to return grease to the reservoir. At the same time, the 2-way valve is opened, allowing grease to also flow from the machine system into the hydraulic cylinder cavity. This process is assisted by the return stroke of the cylinder via the air booster cylinder, drawing grease into the cavity.

The addition of the hydraulic reservoir offers the following advantages:

- System grease is re-used
- Zero Housekeeping Issues
- Self Sustained
- Depressurizes grease from both machine extremes to zero pressure in a matter of minutes.

This upgrade includes assembly prints, BOM, rework & programming instructions and is available as follows:

- 2757691 Upgrade, Hydraulic Reservoir Rev-Rot
- 2757692 Upgrade, Hydraulic Reservoir Nor-Rot
- 2758043 Upgrade, Hydraulic Reservoir Rev-Rot with Dual Lube Autolube Lines (Intermediate Infeed)
- 2757988 Upgrade, Hydraulic Reservoir Nor-Rot with Dual Lube Autolube Lines (Intermediate Infeed)

This feature will be supplied as "Standard" on all new 590A, 595K & 595SK complete machinery shipments effective January 2012.

Contact Belvac Inside Sales for purchase and delivery options.