Lubecore Technical Announcement

Injector return policy and trouble-shooting guide

In the near past we have recognized problems with injectors supplied to Lubecore. Users of these injectors have seen injectors leaking. With the new proprietary Lubecore injector working exceptionally well we are seeing many injectors returned that are not leaking. **Lubecore will and can only accept and warranty injectors that are actually leaking**.

The good thing that has come out of this situation is that we now have a Lubecore designed and engineered injector, where Lubecore is controlling the dimensions and materials used with patents pending. This injector is the new benchmark in the industry. **Thoroughly tested, Self-bleeding, high -reload pressure etc.**

We have done a lot of returned injector testing lately and below is what needs to be verified before injectors are returned or before warranty is approved.

To test whether an injector is leaking before it's returned:

1. Remove the line at the injector not at the end of the secondary line. (Compressed air in secondary lines can give a false reading or make you draw a wrong conclusion and an expanding air pocket in a secondary line can make it look as if an injector is slowly leaking). This can also happen to the 11.100 through 11.109 series injectors.
2. Pressurise the system to 1000 PSI wait for 3 minutes and observe if the injector is leaking through.
3. If an injector actually leaks normal warranties apply.

Air expands in secondary line as pressure drops

NOTE:

We have seen many injectors returned that have air in the injector, on our test bench they sputter and work in a matter of a few strokes. We have determined that this is the result of air introduced in the system reservoir. This air is pumped in the mainline, introduced in the injectors and performance is affected in one of 3 ways.

1. Injector stops working and needs bleeding (sometimes on a short mainline) to bleed out air.
2. Some air goes through the injector and gets into the secondary line as compressed air. At the grease points this can temporary look like a leaking injector as the compressed air pushes extra grease out.
3. Combination of the above 2 scenarios

What needs to be done when you find air in the injectors.

In case you find air in injectors the root cause needs to be determined. Most likely one of three things is the matter.

1. Air is pumped in when filling from an empty container. Air can be pumped in during the filling process. Grease containers can also have air-pockets if they are not filled consistently.
2. The vacuum balance is off, the resistance between the Makrolon reservoir and the red lip-seal vs. the vacuum required to open the quick fill connector is off balance. This means that it easier for the grease cylinder to draw air in through the quick connector then it is to fill the cylinder with grease.
3. Leaking quick connector (kept open by dirt or cap)

Overcoming these issues can be done as follows:

1. Train customer to be careful not to pump air in grease pump while filling pump, when the pail you are filling from is almost empty this can happen. When you suck air in (soft feeling to handle) don't keep filling, replace pale and bleed the fill hose.
2. To verify if the vacuum balance is off use a vacuum/pressure gauge and operate the pump observe the gauge and make sure that no vacuum is drawn at the quick connector: see TCM LCC2017-025

   When the grease pump comes off pressure the internal grease cylinder is drawing a vacuum as the air piston goes down, grease must now re-fill the cylinder for the next stroke. You should not see a vacuum spike or reading at the at the vacuum/pressure gauge installed on the quick connector.

Vacuum created through quick disconnect filler - Undesirable

Brake Lubricant

If there is a vacuum noticed at the vacuum gauge when operating the grease pump lubricate the follower plate with a silicone based brake lubricant. Lubecore has been using Kleen-Flo EZE Slide with good success.

When there is a positive reservoir pressure the air must have been introduced during the filling process.

Pressure in Reservoir - Desirable During and After Pump Cycle.

Best practice to make sure there are no hidden air pockets in the reservoir is to:

1. Push the reservoir empty by removing the low-level switch or low-level switch plug, use an air pistol in the overflow passage and gently pressurise from the top and capture the grease in a clean plastic bag or pump direct back into the filler pump.
2. Refill the pump without introducing air.
3. Bleed the mainline confirming there are no air pockets.
4. Replace quick connector with a new one.

Incoming injector check at Lubecore.

All returned injectors for warranty to Lubecore will be checked for leaking or for air in the injector. We simply install them in a manifold and operate them 10 times and then hold pressure for 3 minutes.

Only actually failed injectors will be replaced under warranty under the current warranty guide lines.

Injectors that are operational upon inspection can be requested back and added to a next shipment. Or will be disposed of if not requested back.