Bearing lubricating procedures

Bearing run-in procedures



The run-in procedure described below is not normally necessary other than for precision bearings or preloaded bearings running in high speed applications. However, some type of run-in procedure should be followed when the fill quantity becomes an important parameter. Excessive operating temperatures and/or an over-lubrication condition will result if the necessary run-in is omitted. It is best to consult with a Kluber representative if you have any questions in this area, or if your specific application does not reach a stable equilibrium operating temperature after it has been runin.

A proper run-in procedure will provide the following results:

- Expel the excess grease found in the system
- Orient the lubricating film on each contact surface
- Establish a low equilibrium operating temperature
- Achieve a sealed-for-life lubrication condition

Specific recommended run-in procedures are described in detail. Although there are alternatives for applications where speed or temperature cannot be varied or monitored, it is ideal to have some control on these parameters.

Run-in Procedure

- 1. Start at a reasonable low speed, typically 20% of the maximum operating speed. Monitor temperature.
- 2. Increase speed incrementally when a stable temperature is reached.
- Continue incremental increases in speed as described. If a rapid temperature increase occurs, stop the run-in process. This temperature spike indicates a preload due to thermal expansion. Maximum bearing temperatures should not exceed 70°C (158°F). Temperatures in excess of 70°C will cause excessive bearing pre-loads and possible permanent grease or bearing damage.
- 4. Allow the system to cool to room temperature.
- 5. Restart procedure at the last speed prior to the temperature spike.

Continue repeating the above cycle until an equilibrium temperature is reached at the maximum operating speed of the application. The ideal equilibrium operating temperature is 35°C to 40°C (95°F to 105°F).

Alternative run-in procedure

(when speed cannot be varied)

Run-in at constant speed is also possible. In this operation, the bearing should run at full speed for about 30 seconds. After stopping, the heat in the bearing dissipates. In this way a dangerous temperature rise is prevented. The non-running time depends on the various design factors, but it should be at least 5 times greater than the running time. This process is repeated until the bearing temperature becomes constant.



Alternative run-in procedure diagram

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Example for a running-in procedure

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