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The Friction Factor

The purpose of this project was to find the most effective lubricant for high pressure use. The hypothesis stated that JB-80 would be the best lubricant, followed by WD-40, grease, butter, and lastly oil.

The experiment involved setting up a timken bearing test machine. Next the lubricant was added to the wheel, and then the arm was lowered onto the wheel. The machine was turned on, and if it turned for five seconds, it was considered a pass. In this case, the equivalent of 100 lbs was added to the arm and the test was repeated. If the machine stopped before the five seconds was up, it was considered a fail and the weight was recorded.

The data collected partially supported the hypothesis. JB-80 was the most effective lubricant. The order of lubricants from most effective to least was: JB-80, butter, grease, oil, and then WD-40. The average weight held by JB-80 was 980 pounds.

If this project was continued, the amounts of lubricant would be measured more precisely. Different tests would also be performed, such as how long a lubricant will last at a certain pressure on the wheel.