Roller Bearing Outlook 2025

Examining the domestic and global markets

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Understanding the overall economy as it relates to the global bearing market is critical because it will ultimately determine how companies spend their money. In a down economy, companies go into protective mode, reducing inventories, headcount, R&D expenses and less willing to spend money on products on projects that have not turned into real purchase contracts. In a healthy economy, we see more R&D in heat treatment, lubrication, steel quality, etc. with headcount and resources willing to support long-term (and unpaid) projects.

The 2025 outlook for the global and local bearing markets appears moderately positive overall with projected growth in global and domestic automotives sales, which are key indicators for global bearing sales. US vehicle sales are projected to hit 16.3M units, up from 16M in 2024. Additionally used vehicle sales are expected to hit the highest volume since 2021 at 20.1 million units. The driver of the growth is a general ease in affordability as auto loan rates decline, credit approval rates rise along with increased inventory spurring buyer incentives.

This year EVs are expected to hit 25 percent of new vehicle sales; 10 percent of that being full EVs (no fuel engine)—up from 7.5 percent in 2024. The remaining 15 percent is spread among the various types of hybrids (this can include a simple 48v engine-mounted motor-generator unit). All of this is backed by a presumed strong economy with a GDP growth of 2.6 percent. The remaining 75 percent of sales will remain with internal combustion engines—the lowest percentage on record to date. (Ref. 5)

Globally, the automotive forecast also remains strong, up 1.7 percent to 89.6M units in 2025. Slowing electric vehicle adoption rates somewhat moderates an otherwise cautious recovery growth. "The forecast outlook incorporates several factors, including improved supply, tariff impacts, still-high interest rates, affordability challenges, elevated new vehicle prices, uneven consumer confidence, energy price and supply concerns, risks in auto lending and the challenges of electrification. In the U.S., President-elect Donald Trump is expected to hit the ground running in 2025 with a range of policy priorities, including universal tariffs, deregulation, and wavering BEV support." (Ref. 4)

The global GDP growth projections are mostly unchanged from 2024 at 2.8 percent; still slow from the pre-COVID average of 3.2 percent. All this works into an anticipated bearing market growth of around 1 percent. (Ref. 6)

Figure 1—Courtesy - Precedence Research

From the bearing manufacturers perspective, anticipated deregulation of the MPG standards, carbon credits and further potential steel tariffs are somewhat balanced by the already slowing EV transition. "GM CEO Mary Barra said this summer that the EV transition will take decades, Cadillac changed course on its plan to be all-electric by 2030, Audi said it's "flexible" on an EV transition in July, Ford canceled plans for electric 3-row crossovers in August, Toyota scaled back its EV production target in September, and similar headlines keep coming." (Ref. 9)

The bearing and larger automotive market are already under strict anti-dumping legislation along with the full "75 percent" USMCA rules since 2023; additional tariff rules would not make a substantial impact on these markets as they are already highly regulated industries. "On July 10, 2024, the Biden Administration issued two proclamations Proclamation No. 10783, 89 Fed. Reg. 57347 (July 10, 2024) and Proclamation No. 10782, 89 Fed. Reg. 57339 (July 10, 2024) concerning imports of steel and aluminum products from Mexico and imports of aluminum products from Russia, China, Belarus, and Iran. The proclamations allow additional import duties of 25 percent for steel and 10 percent for aluminum to be levied on these categories of merchandise under the Trade Expansion Act of 1962." (Refs. 1,2,3)

Bearing Manufacturers Perspective

I had the opportunity to discuss the 12-month outlook with several bearing manufacturers and while market and product strategies are different, everyone shared the same concerns about the uncertainty of the EV markets and tariffs.

Many companies have created new departments dedicated to electrification with the idea that the ICE market would slow down as the EV side picked up. With the current MPG standards, the automotive companies were forced to attempt to create an EV market which did not exist and does not exist at a very high financial loss. Making products for customers that do not exist is not sustainable for most companies. The bearing manufacturers are likewise forced to keep up with the artificial demand. Projections of millions

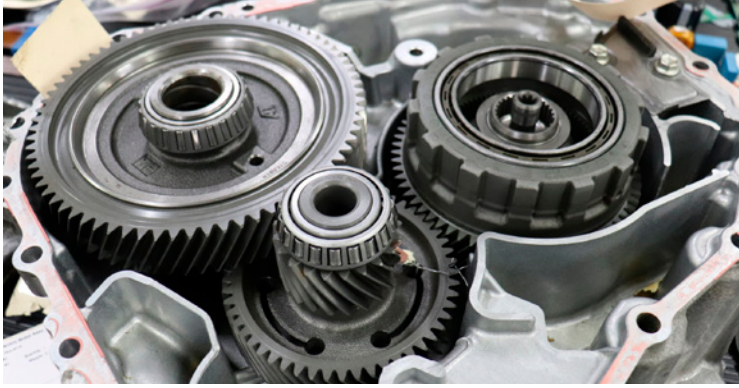
of EVs that were already supposed to be here simply has not materialized. Again, we are seeing numerous program delays, cancellations, unfinished factories sitting idle while ICE demand remains strong. Manufacturers have no choice but to support the products that are in demand and allocate only the resources needed to support what now appears to be a slow growth, secondary EV market.

In the design space, electrified gearboxes continue to mature in design while designers continue to experiment with new architectures in attempts to further improve efficiency, performance, noise, and cost. It is a strange place we are in. The EV market was forced onto the industry through regulation in the name of efficiency. To entice new customers, the outrageous torque and power that multi-motor EVs can produce has been one of the largest selling points. If your EV isn't a sub 4 second 60 mph, you can hang your head in shame.

On the engineering side, there is strong continued development in ULV (ultra-low viscosity) oils. It seems we are seeing a challenge area around 4cSt at 100°C. To maintain enough film to protect the bearings and gears, more aggressive additives are needed. The issue is, the additives are corrosive to copper if the oil is used to cool the motor. The obvious 3 options for these issues are: 1. Develop additives that are less corrosive to copper—not easy, cheap, or fast. 2. Use different lubricants for the gear and motor side. Mixing of fluids is always a concern, but not so different from the current motor oil, motor coolant and transmission fluid combination that we deal with every day with ICE architecture. 3. Dry motor housing with sealed bearings. The primary issue here is heat. The older style small motors can manage the smaller amount of heat generated in the dry motor sump but higher power 200 kW ++ motors can generate a motor-deteriorating amount of heat which is why wet sumps have taken over as the design preference in higher power applications.

Bearing damaging levels of stray electric current in motors continues to be a regular conversation. We know how to fix it; throw a ceramic ball bearing on the resolver side and a conductive ring on the gear side and forget about it. The problem is—that can be a $25 solution (add "million" to end to see how executives view that number). Hard rubber or plastic-coated outer diameters in lieu of ceramic are not new, but still not regularly found in high volume. On the grounding side, some companies are working on integrated the grounding into the bearing, but this is not an easy or cheap solution either. There is also talk of being able to limit the current on the motor side. All these solutions are still in discussion.

Regionalization is a big topic of conversation right now. This started before COVID, which would be a logical guess to when this started. Prior to COVID, we were seeing USMCA, anti-dumping, discussion of tariffs, fair trading practices, concerns about reliance on China, etc. We were seeing bearing manufacturers starting to talk about setting up factories in N. America for N. America. We are not the only place, we are seeing India, Europe, S. America all bringing products closer to the end user. COVID simply reinforced a trend that had already begun. Providing the legislation remains favorable, we expect this trend to continue.



Conclusion

A strong economy can fix just about anything. There is an old Wall Street saying that everyone looks like a genius in a bull market. We have discussed these large expenditures that are not seeing a return. A strong current product market can maintain these costs, to an extent, while secondary markets develop. The risk that everyone is very aware of is the high level of debt capital which will turn into a real problem if the economy softens. For this reason, companies are quickly pulling back expenses in the EV market and realigning with the ICE market where the current volume is. A potential silver lining—though at a cost much higher than silver—is when the EV market does develop, everyone is ready for it in the engineering and manufacturing worlds.

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