

Town Hall: Is It EV-Standards Time?

Phillip Olson, Director, AGMA Technical Services

For 107 years, AGMA has been the go-to place for gear standards. We have been bringing together engineers and leaders from across our industry to keep our standards updated and in line with new technologies. We started with noise issues on electric street cars in the early 1900s, and today we lead the global ISO TC 60 committee on standards including wind-turbine gear-box development. As new technologies and gear applications emerged, AGMA has gathered experts to discuss, brainstorm, share, and collaborate on the topics of the day such as plastic gears, epicyclic gears, marine gears, wind turbine gearboxes, and, of course, gear sets for internal combustion vehicles. We have also kept updated standards on gear accuracy, materials, and lubrication. This work has led to standards that reduce costs, improve quality, and make safer products for manufacturers and consumers worldwide.

Today, electric vehicle (EV) technology is an exponentially growing sector with many opportunities for standardization. Specific to gears, areas of standardization may include gear noise, vibration, and harshness (NVH), gear designs for higher RPMs, or design considerations for regenerative braking—just to name a few. To keep within its traditional role as the facilitator-in-chief, AGMA is calling for a gathering of experts to begin discussions toward the possible development of standards in the EV space. We invite you to the table!

AGMA will host an EV Town Hall from 8:00–10:00 am on October 19 during the Motion + Power Technology Expo (MPT Expo) at the Detroit Convention Center on October 17–19, 2023. Attendance for this event is free and just requires registration through the MPT Expo website.

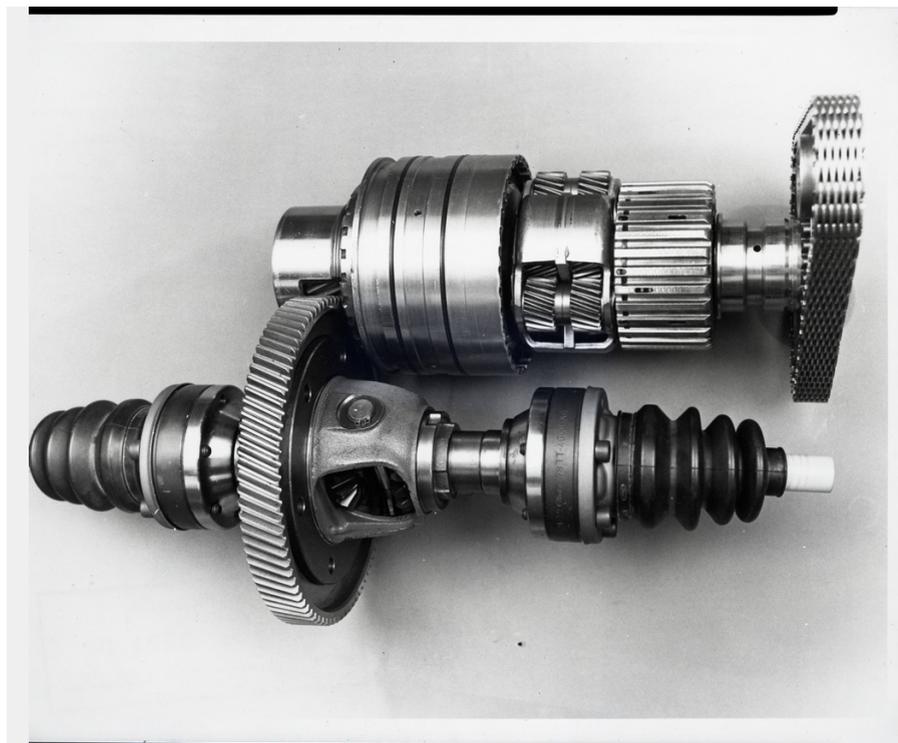
During the meeting, you will be introduced to the current leaders of AGMA and its Board. They will provide updates on our work in the EV space including education, events, emerging technology work, and other resources. Amir Aboutaleb, AGMA VP, Technical Division will outline current AGMA standards and information sheets that intersect with and are currently used in the EV space. Relevant design documents to be discussed include, ANSI/AGMA 6002-D20 which covers internal combustion vehicle spur and helical gears, ANSI/AGMA 6123-C16, Design Manual for Enclosed Epicyclic Gear Drives, and ANSI/AGMA ISO 23509-B17, Bevel and Hypoid Gear Geometry. Also, of note are three published NVH documents that could be applied to EV gears, AGMA 914-B04, Gear Sound Manual, ANSI/AGMA 6000-C20, Specification for Measurement of Linear Vibration on Gear Units, and ANSI/AGMA 6025-E19 Sound for Enclosed Helical, Herringbone and Spiral Bevel Gear Drives. In addition to these, other documents with broad

applications beyond EV, but which may have relevant sections, such as ANSI/AGMA 1010-F14 Appearance of Gear Teeth—Terminology of Wear and Failure will be discussed. Amir will outline the process for new standards development. He then will open the floor for attendees to share their thoughts on the industry's current state, including areas and topics where AGMA should consider developing standards or information sheets. All are welcome and encouraged to attend.

This discussion will provide us with the next steps for AGMA in the EV space. One outcome is the formation of a group—or multiple groups—to work on new standards. Another possibility is reviewing and updating current standards. We also may find the need for more education in this area as another outcome. Regardless, we are here to listen to your feedback and facilitate the next steps in response to industry needs. Come be part of this discussion to have your voice heard.

Register today at:

register.rcsreg.com/r2/mpt2023/ga/clear.html



Electric Vehicle Eaton Transaxle, NASA Technology, 1980.