

Revolutionizing Boost Control - DSPS Engineering Unveils

Cutting-Edge Wastegate Technology

DSPS Engineering Presents Next-Generation Boost Control Solutions for High-Performance Applications

In an exclusive webinar, DSPS Engineering revealed groundbreaking advancements in wastegate technology, offering a glimpse into the future of boost control for motorsports and high-performance applications. Led by Perry Cohn, Owner of DSPS Engineering, the presentation focused on how innovations in wastegate design are redefining performance, reliability, and control in the world of motorsports.

The Evolution of Wastegate Technology

DSPS Engineering has been a leader in wastegate technology since the 1980s, with their flagship DW1 wastegate used in various applications, including rallycross and hypercars. The new advancements discussed in the webinar build on this legacy, moving from traditional pneumatic systems to more precise and responsive electronic control.

According to Perry Cohn, the DSPS journey began with traditional wastegates that relied on basic components like springs and membranes. However, as the need for better control grew, DSPS introduced linear position sensors, significantly enhancing the precision with which wastegates could be operated. "The introduction of linear sensors was a game-changer," said Cohn. "It allowed us to achieve more precise control, ensuring that we could maintain higher boost levels for longer periods without the traditional lag and fluctuations."

Advancing to Formula 1-Level Precision

One of the standout developments shared during the webinar was DSPS's venture into Formula 1-level wastegate technology. Cohn highlighted how DSPS implemented hydraulic systems capable of opening and closing wastegates in under 10 milliseconds. This level of responsiveness enables control at frequencies as high as 300 hertz, allowing teams to maintain boost pressure with incredible stability.

"Imagine being able to control your wastegate to within one or two millimeters at such high speeds," Cohn noted. "This opens up a whole new realm of possibilities for keeping turbocharged engines at peak performance."

However, replicating such performance in more budget-conscious series, like IndyCar, remains a challenge. To address this, DSPS has been developing electronic wastegates that combine the precision of hydraulic systems with the affordability of pneumatic

control. This development marks a significant step forward in motorsport technology, bringing cutting-edge performance to a broader audience.

Overcoming Challenges in Heat and Durability

Temperature management was another key focus of the webinar. As wastegates are subjected to extreme temperatures during operation, DSPS Engineering introduced innovative cooling solutions, including water-cooled versions, to ensure optimal performance under high-heat conditions. The use of advanced materials, such as titanium valve guides and Inconel castings, further enhances the durability and heat tolerance of the wastegates.

"Heat is the enemy of performance," Cohn explained. "We've worked hard to ensure that our components can withstand the harshest conditions without compromising reliability or control."

The Future: Intelligent Control and Affordability

Looking ahead, DSPS Engineering aims to bring the precision of Formula 1-style wastegate control to a wider range of motorsports through the use of affordable electronic systems. By leveraging advanced sensors, proportional pneumatic valves, and closed-loop control, DSPS is pushing the boundaries of what's possible in terms of both performance and affordability.

"We're excited about what the future holds," said Cohn. "Our goal is to continue advancing wastegate technology, making it more accessible without sacrificing the quality and performance that DSPS is known for."

Conclusion

The DSPS Engineering webinar showcased the company's relentless pursuit of innovation in wastegate technology. From Formula 1 to Hypercars and Rallycross, DSPS continues to set new standards in performance and reliability. As motorsport technology evolves, DSPS remains at the forefront, driving advancements that benefit teams and drivers around the world.

To learn more about DSPS Engineering's Wastegate Technology, [watch the full webinar here.](#)