



News Release

March 6, 2024 Yanmar Holdings Co., Ltd.

Tuff Torq Expands Testing Capabilities with New Chassis Dynamometer Facility

Morristown, TN (March 6, 2024) – Tuff Torq Corporation, a group company of Yanmar Holdings Co., Ltd has invested in increasing onsite testing capabilities with the addition of a zero-turn mower chassis dynamometer and purpose-built dynamometer facility. A large part of the future of Tuff Torq Corporation is dedicated to continued investment in technology for our customers. The Tuff Torq Test Department has been working closely with a dynamometer manufacturer in Michigan to design and build equipment that will be used specifically for testing commercial and residential zero-turn mowers. Testing can be performed on gas, diesel, and electric mowers with the ability to generate specific vehicle load conditions, while recording vehicle data.





Left: exterior view of new dual facility; right: South side interior of Chassis Dynamometer building.

Fuel and exhaust systems allow for 24-hour testing under temperature-controlled conditions.

- AC Pulse Width Modulated Vector Control System provides full four-quadrant operation for "road load" simulations.
- · System has been sized for residential and commercial Zero Turn mowers.
- Allows vehicle to remain stationary for observation under load for improved ability to instrument,
 collect data, and record video when replicating field conditions.



Pre-installed chassis dynamometer

About Tuff Torq

Tuff Torq Corporation, established in 1989, develops, manufactures, and sells hydro-static transaxle drive systems for industrial machinery such as ride-on lawn and garden tractors, off-road UTVs, construction equipment, as well as marine gears. They are a subsidiary corporation of Yanmar Holdings Co, Ltd. For more information, please visit tufftorg.com.

About Yanmar

With beginnings in Osaka, Japan, in 1912, Yanmar was the first ever to succeed in making a compact diesel engine of a practical size in 1933. A pioneer in diesel engine technology, Yanmar is a global innovator in a wide range of industrial equipment, from small and large engines, agricultural machinery and facilities, construction equipment, energy systems, marine, to machine tools, and components — Yanmar's global business operations span seven domains. On land, at sea, and in the city, Yanmar provides advanced solutions to the challenges customers face, towards realizing A Sustainable Future. For more details, please visit the official website of Yanmar Holdings Co., Ltd. https://www.yanmar.com/global/about/

Note: Information contained in the news release is valid at the time of publication and may differ from the most recently available information.

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