

Modified Lawnmower Tachometer Standard



Summary

A small engine appliances manufacturer requested a solution to calibrate their engine safety testing system. The particular testing system utilizes a dynamometer, laser tachometer and timer all connected in a PLC to determine the time needed for a lawnmower blade to come to a complete stop after the emergency switch is pulled. Traditional tachometer calibration standards were unable to pick up the laser's signal and technicians were unable to perform an adequate calibration.

Cross Engineering developed a modified lawnmower which had a sight hole on the top of the blade housing with a bracket to mount a strobe light tachometer. By mounting the tachometer over the blade, the technician was able to perform a comparison test between the stroboscope and laser tachometer. To improve the control of the calibration process, the Engineering Team also replaced the gas motor with a steadier and more controllable electric motor.

Benefit

The modified equipment allows NIST traceable and ISO17025 accredited tachometer calibration to be performed without having to dismantle the entire platform underneath the test subjects. This method allows calibration to be performed at any frequency required by their quality team ensuring a better and safer product.

Engineering & Application Specifications

Blade RPM: Up to 3500

Tachometer Accuracy: ± 1 RPM