



TECH TIP



MEASURING TOP SPEED

Where to Start

The first step in measuring performance gains on your watercraft is to have an accurate baseline from which to start. Unfortunately, the stock speedometer and tachometer on a watercraft do not allow for exact measurement and shouldn't be relied upon for accuracy.

Speed Readings

Our tuners recommend the use of popular phone based apps that measure average top speed to eliminate top speed spikes. Hand held GPS units can be deceiving because they record peak top speed which is usually a false spike and do not provide the average sustained top speed. To increase the accuracy of your phone based app, you can add an external Bluetooth GPS receiver. These small devices deliver precise speed data to your phone app.

RPM Readings

We recommend the use of the MaptunerX with Data Logging Application for accurate RPM measurement. This system provides real-time monitoring of engine RPM along with additional engine data. Simple modifications that increase rpm usually translate into more speed. In some cases, an additional 100-rpm could net a 1 mph gain in top speed.

Consistency for Accuracy

Consistent testing procedures are important to achieve an accurate top speed reading. When testing parts for top speed and acceleration, the conditions that existed for the baseline test should be duplicated as closely as possible for subsequent runs. If you use a phone based GPS app to establish a baseline make sure you use the same system for all future runs. Consecutive runs should be made in opposite directions for speed averaging purposes. Other factors such as altitude, air temperature, humidity, water conditions, and water type (salt or fresh) can make major differences in top speed readings and change the conditions of the test. Make sure to always use the same rider for all speed passes and don't overlook important factors such as consistent fuel level, foot placement and rider positioning, all of which contribute to the accurate measurement of top speed.

For questions or more information related to this technical bulletin contact:

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FACTORS THAT INFLUENCE TOP SPEED

ENVIRONMENTAL CONDITIONS

1. Elevation
2. Temperature
 - a. Air
 - b. Water
3. Humidity
4. Water Conditions
 - a. Chop/Wave Action
 - b. Current
5. Water Type
 - a. Fresh or Salt/Brackish

WATERCRAFT OPERATING CONDITIONS

1. Engine
 - a. Running Hours/Excessive Wear/Break-in Period
 - b. Compression
 - c. Supercharger Clutch
 - d. Intercooler
 - i. Holds Pressure
 - ii. Free of Contaminants
2. Fuel System Pressure
 - a. OEM Fuel Pump
 - b. OEM Fuel Pressure Regulator

Fuel

1. Octane
2. Quality
3. Level

Condition of Jet Pump

1. Drive Shaft
2. Wear Ring
3. Impeller
4. Intake Grate
5. Pump Shoe/Transom Plate
6. Stator & Reduction Nozzle Vanes
7. Pump Bearings



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FACTORS THAT INFLUENCE TOP SPEED

Trim

1. OEM Adjustment
 - a. Level in Neutral Position

Handling Components

1. Intake Grate
2. Ride Plate
3. Sponson Settings
4. Trim Tabs
5. Steering Nozzle

Rider Position

1. Foot Placement
2. Body Location
3. Body Form

Craft Load

1. Empty Storage Compartments
2. Single Rider Weighing 175lbs

Hull Condition

1. Damage
2. Repairs

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