

# GPS vs Wheel Speed

From a Dirt Oval Kart View



## Host:

**Roger Caddell**

AiM Sports - National Training Manager  
[www.aimsports.com](http://www.aimsports.com)



## Co-Host:

**David Smith**

KartSpeed Solutions – Owner  
[www.kartspeedsolutions.com](http://www.kartspeedsolutions.com)



[aimsports.com](http://aimsports.com)

Tuesday February 1<sup>st</sup>, 2022

LearnFast™

# David Smith

Owner – KartSpeed Solutions  
[KartSpeedSolutions@gmail.com](mailto:KartSpeedSolutions@gmail.com)  
(910) 262-1786



- Started Kart Racing at 9 years old
- Dirt Kart Oval Racing Since 1990 (32 Years!)
- 2 Young Sons in Dirt Kart Oval Racing, Jack (13 Years Old) and Gavin (9 Years Old)
- KartSpeed Solutions Uses Performance Analytics Powered by Racing Data
- Focusing on Strong Customer Relationships with Racers
- Innovative and Always Looking for Better Ways of Analyzing Data to Make Speed
- 2 Time AiM Sports Webinar Co-Host!



David Smith

[www.KartSpeedSolutions.com](http://www.KartSpeedSolutions.com)

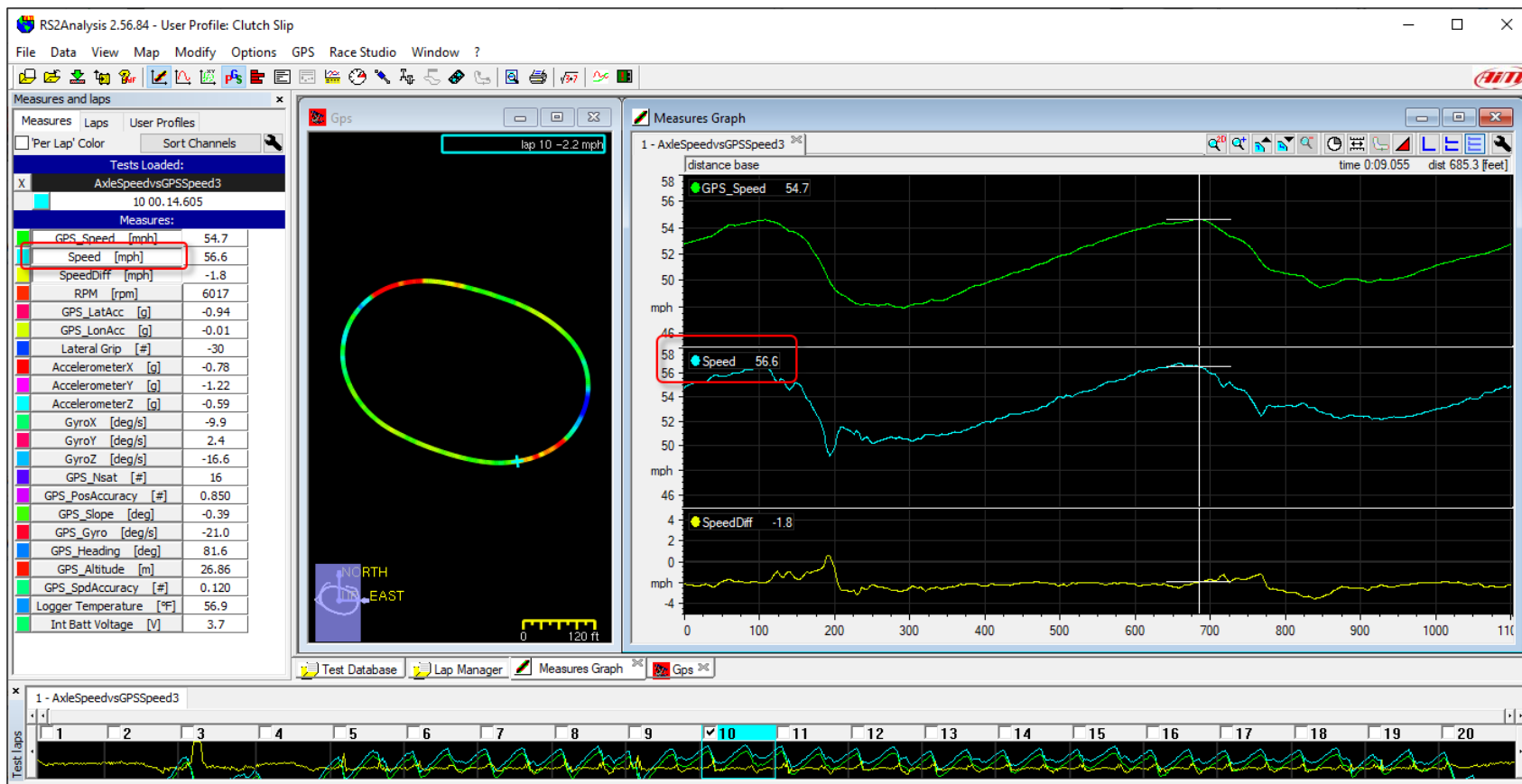


[aimsports.com](http://aimsports.com)

LearnFast™

# GPS vs Wheel Speed

## Speed Sensor / Wheel Speed



GPS vs Wheel Speed – Dirt Oval

Speed Sensor / Wheel Speed

LearnFast™



aimsports.com

# GPS vs Wheel Speed

MyChron Axle Speed Sensor



## Mounting



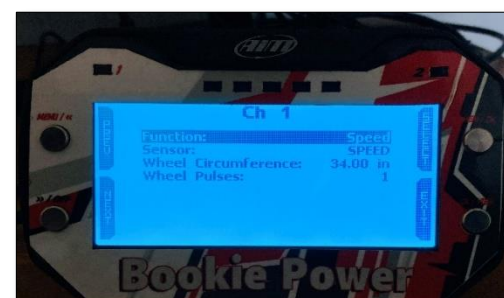
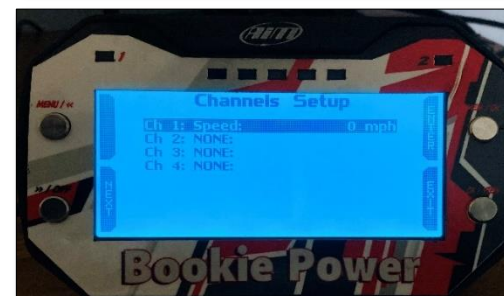
## Connection



# GPS vs Wheel Speed

## MyChron Axle Speed Sensor Setup

- Menu
  - System Setup
  - Expansion Setup Icon
- Channel Setup
  - Channel #1 / Speed
  - Channel Function: Speed
  - Wheel Circumference: (ex. / 34.00 in)
  - Wheel Pulses: (ex. / 1)



# GPS vs Wheel Speed

## Axle Speed Sensor Application



- Chassis Tuning

- Rear Axle Speed is calculated by largest wheel circumference.
- Dirt oval karts, largest tire circumference always on the loaded right side.
- Allows you to view what can be considered the karts front and rear wheel speeds. (GPS represents front wheel speed)

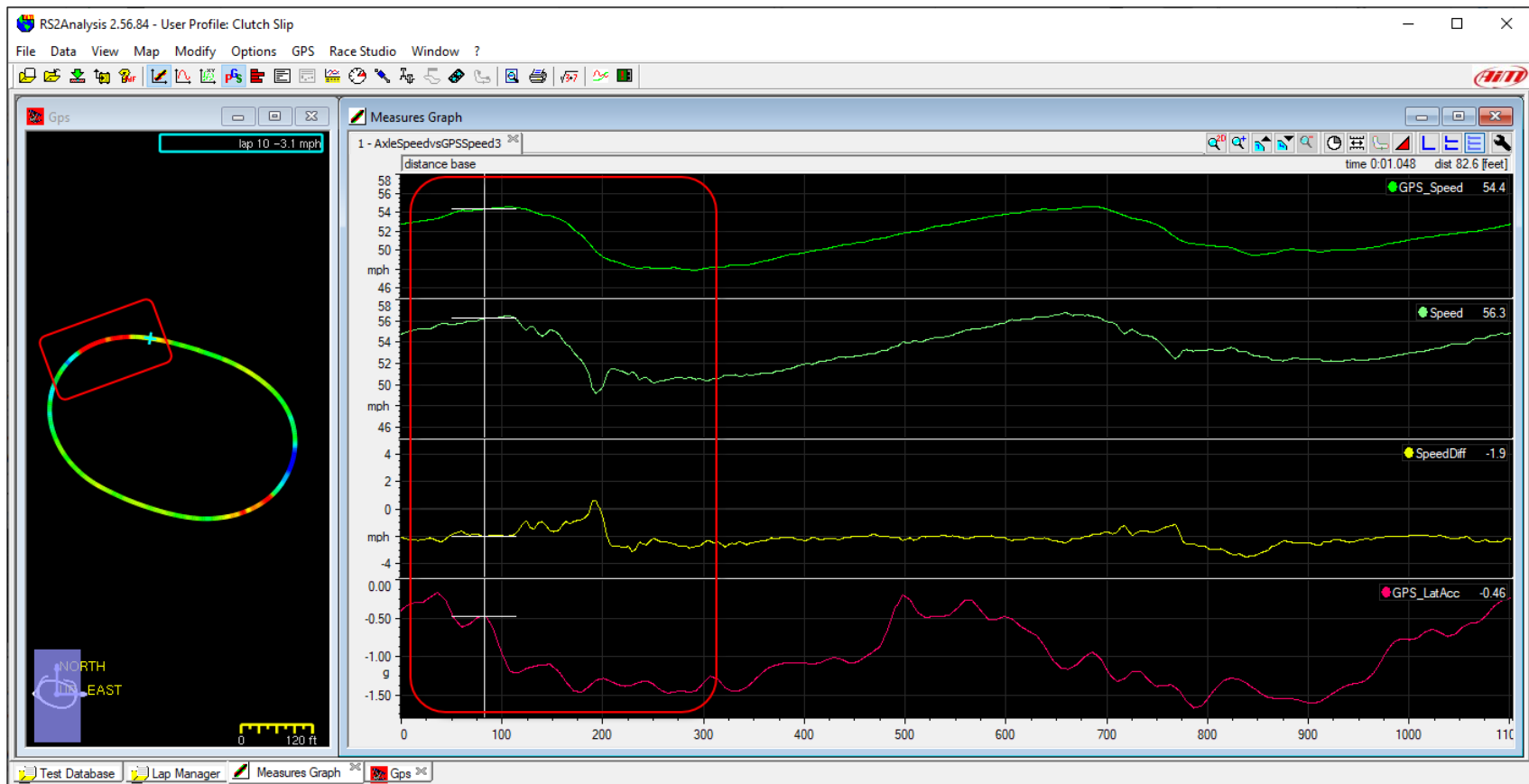
- Clutch Performance

- How clutch is locking up on starts.
- View clutch slippage under lateral load.



# GPS vs Wheel Speed

Turn 1 Entry - Understeer



GPS vs Wheel Speed – Dirt Oval

Turn 1 Entry - Understeer

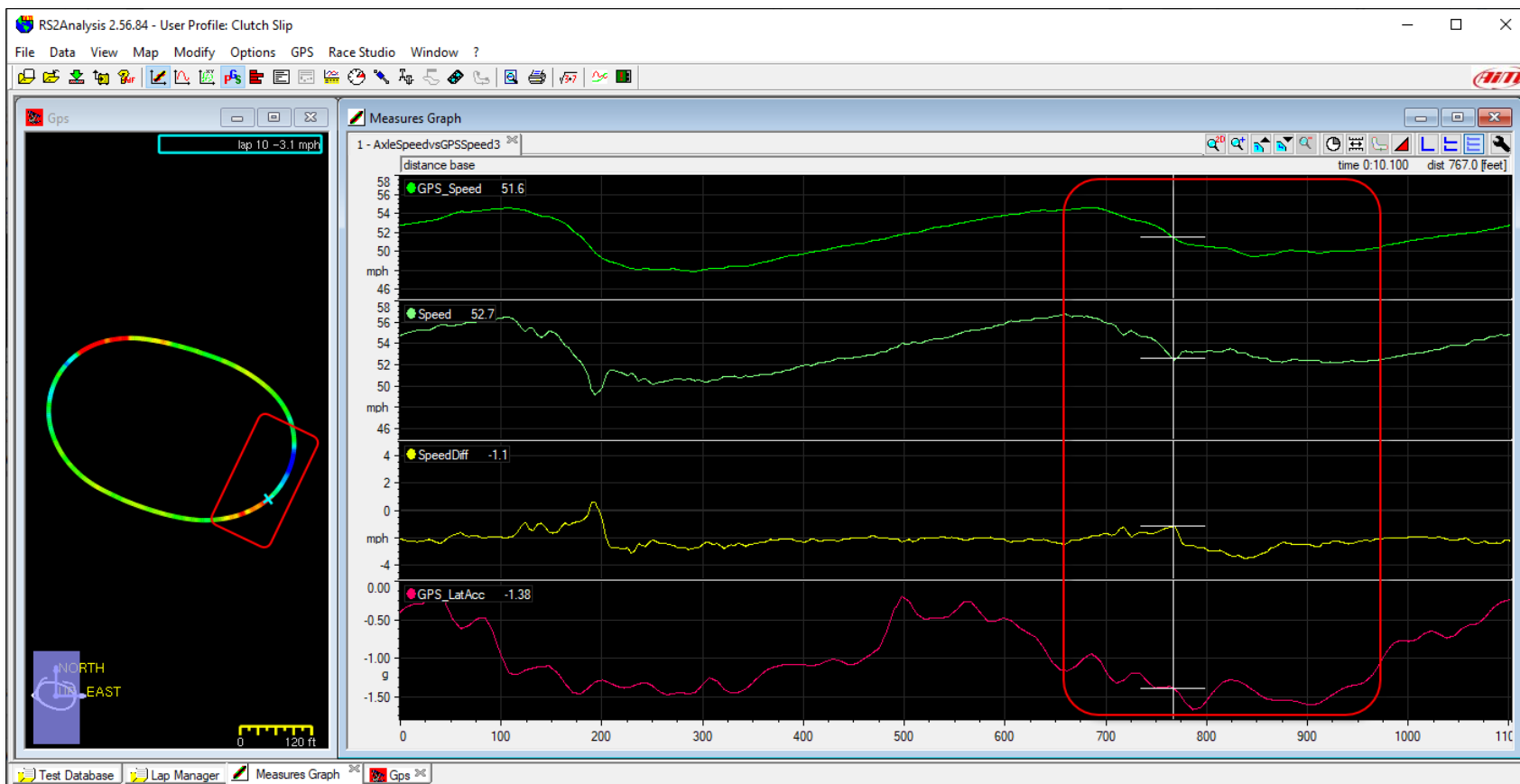
LearnFast™



aimsports.com

# GPS vs Wheel Speed

Turn 3 Mid - Oversteer



GPS vs Wheel Speed – Dirt Oval

Turn 3 Mid - Oversteer

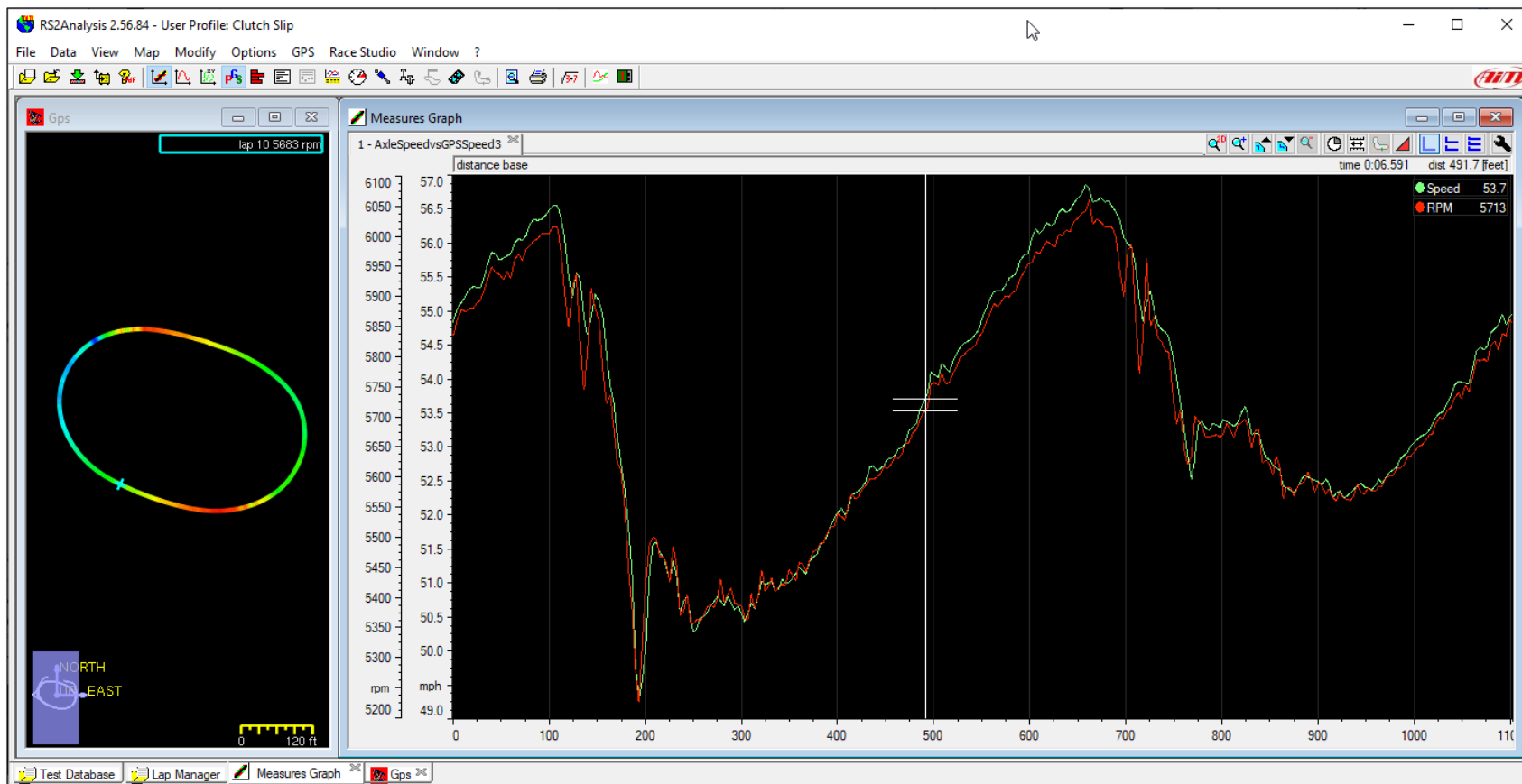
LearnFast™



aimsports.com

# GPS vs Wheel Speed

## Clutch Performance



GPS vs Wheel Speed – Dirt Oval

Clutch Performance

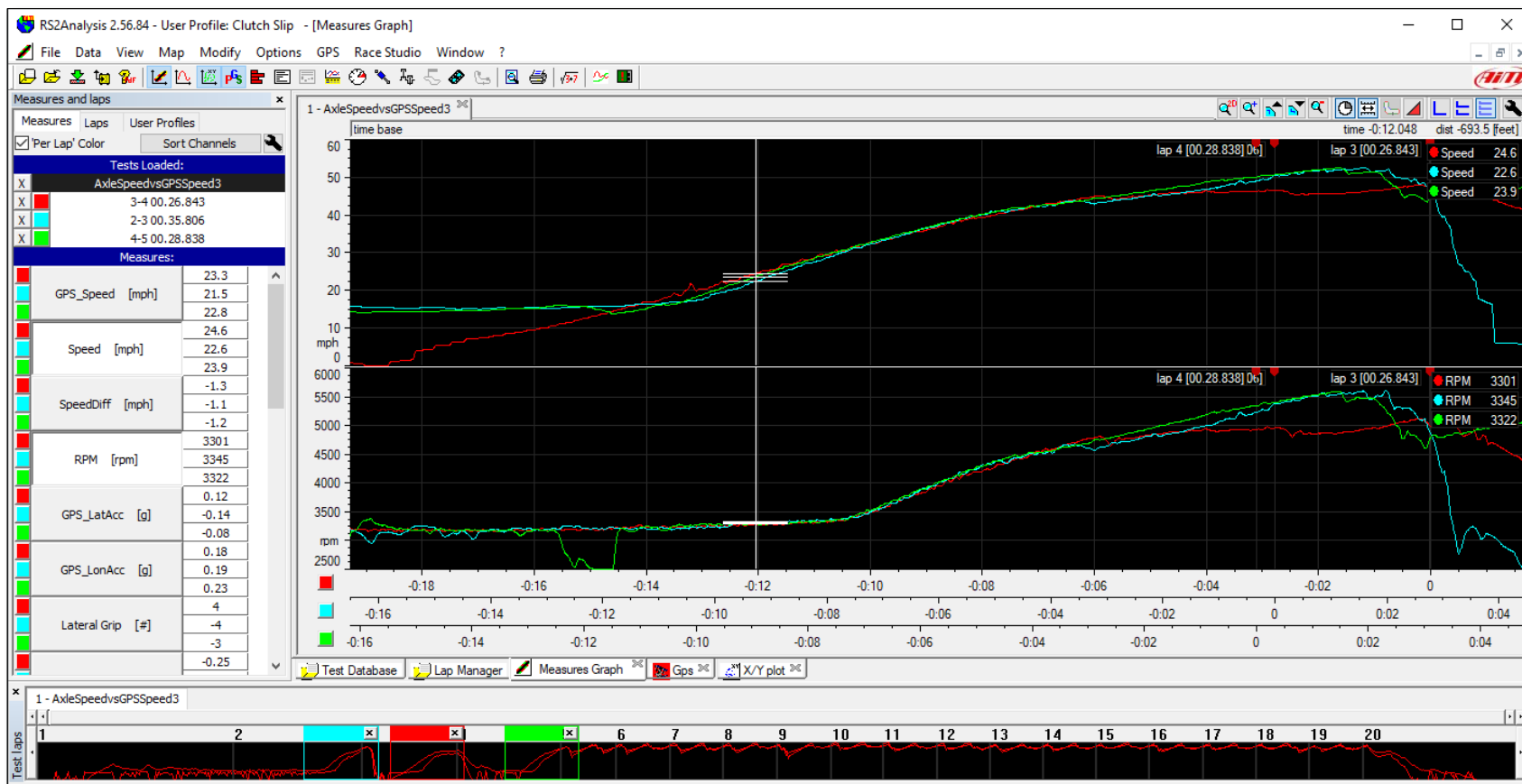


aimsports.com

LearnFast™

# GPS vs Wheel Speed

## Clutch Slip RPM



GPS vs Wheel Speed – Dirt Oval

Clutch Slip RPM

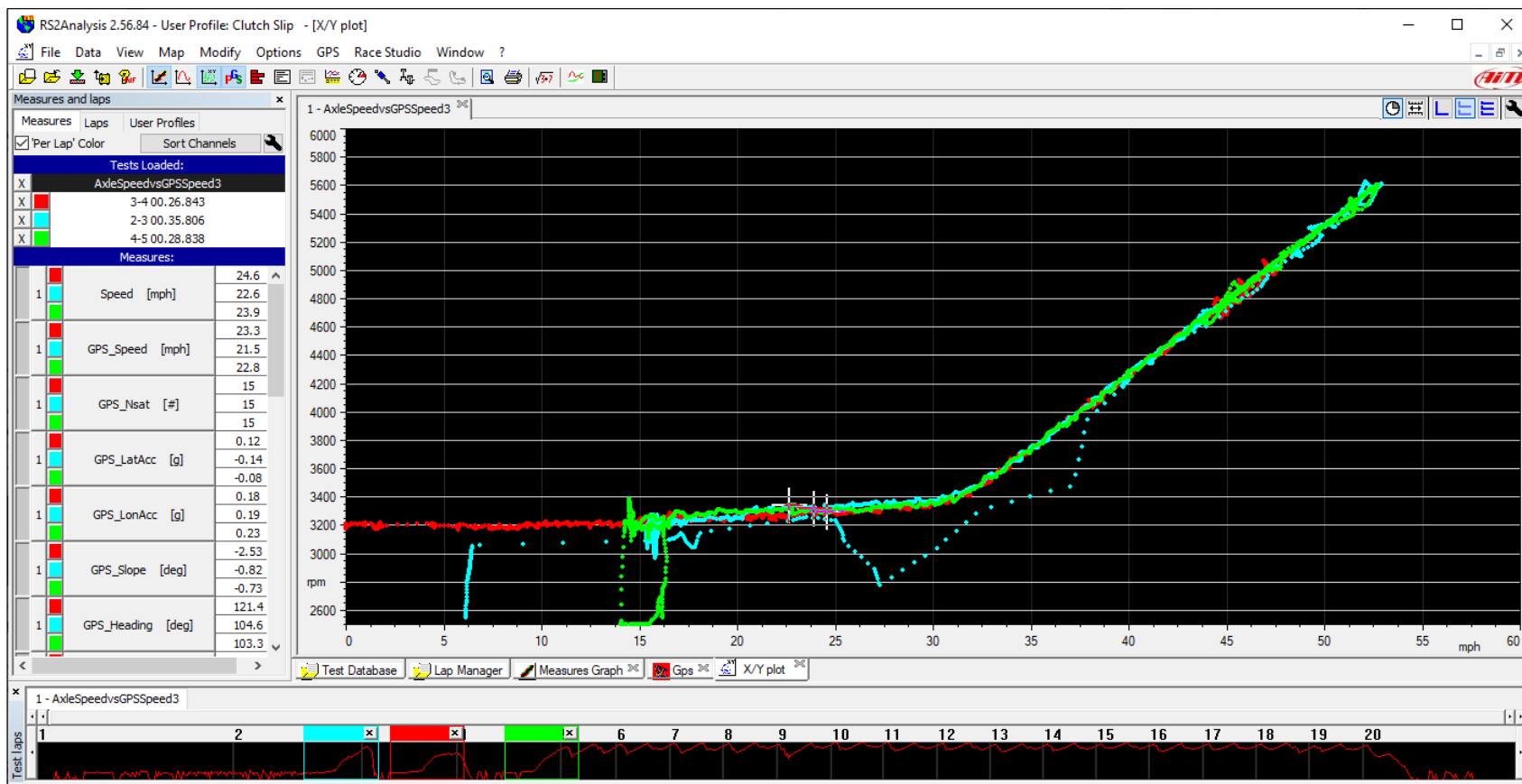
LearnFast™



aimsports.com

# GPS vs Wheel Speed

Clutch Slip RPM – X/Y Plot



GPS vs Wheel Speed – Dirt Oval

Clutch Slip RPM – X/Y Plot

LearnFast™



aimsports.com

# LearnFast™ E-Training Videos



Currently **193** Videos and Growing



**YouTube**

[www.youtube.com/aimdata](http://www.youtube.com/aimdata)

#3-5  
LearnFast™  
If You Have Questions

## GPS vs Wheel Speed

From a Dirt Oval Kart View




**Host:**  
Roger Caddell  
AiM Sports - National Training Manager  
[www.aimsports.com](http://www.aimsports.com)

**Co-Host:**  
David Smith  
KartSpeed Solutions - Owner  
[www.kartspeedsolutions.com](http://www.kartspeedsolutions.com)

Twitter Facebook Instagram YouTube

[aimsports.com](http://aimsports.com)

Tuesday February 1<sup>st</sup>, 2022

LearnFast™

We Have Answers!  
LearnFast™  
#125

#3-5  
LearnFast™  
If You Have Questions

## Race Studio 3 Analysis (Beta)

Data Imports and User Interface Update



**Host:**  
Roger Caddell  
AiM Sports - National Training Manager

**Co-Host:**  
Matt Romanowski  
AiM Sports

Twitter Facebook Instagram YouTube

[aimsports.com](http://aimsports.com)

Tuesday January 18<sup>th</sup>, 2022

LearnFast™

#3-5  
LearnFast™  
If You Have Questions

## Webinar Series

Bringing Data Support and Training to You



Data Download Options  
In Race Studio 3

[www.aimsports.com](http://www.aimsports.com)

March 31<sup>st</sup>, 2020

1.800.718.9090

- All New 2020 - 22 Live Webinar Videos
- Software Updates with Race Studio 3
- Pre-Calculated Gear Position Function
- Configuring WiFi Communication
- Customizing AiM Device Logos
- Race Studio 3 Basic Configuration - Part 1
- Race Studio 3 Basic Configuration - Part 2
- *\*I Have Downloaded my Data, Now What - Part 1*
- *\*I Have Downloaded my Data, Now What - Part 2*
- GPS Lap Insert
- Data Views
- Measure Units
- Sort Channels
- Test Properties
- Per Lap Color
- Export Tests
- Channel Reports
- Setting Time
- Track Mapping
- Selection Criteria
- Sensor Calibration
- Conditional Alarms
- Gear Position
- Firmware Update
- Solo Configuration
- Transmit Tracks
- Gps Manager Overview
- New GPS Track
- Webinars

*\* Most Popular and Recommended*

## Additional Materials

LearnFast™ E-Training Videos

**LearnFast™**

[aimsports.com](http://aimsports.com)

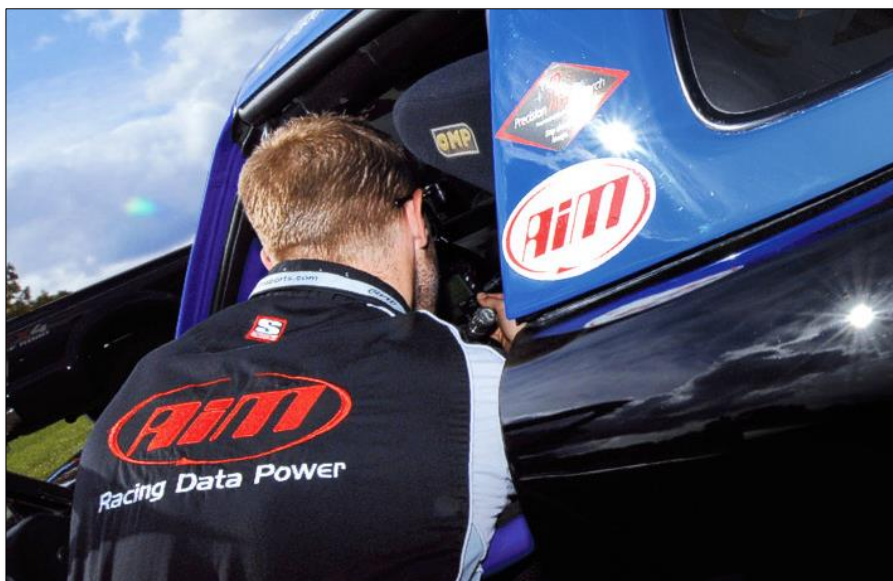
We Have Answers!  
LearnFast™  
#128

# Customer Support



AiM Sports Technical Support Staff Regularly  
Attend Races and Other Events

Look For Us At An Event Near You  
Or Call Us At **800.718.9090**



Customer Support

At An Event Near You!

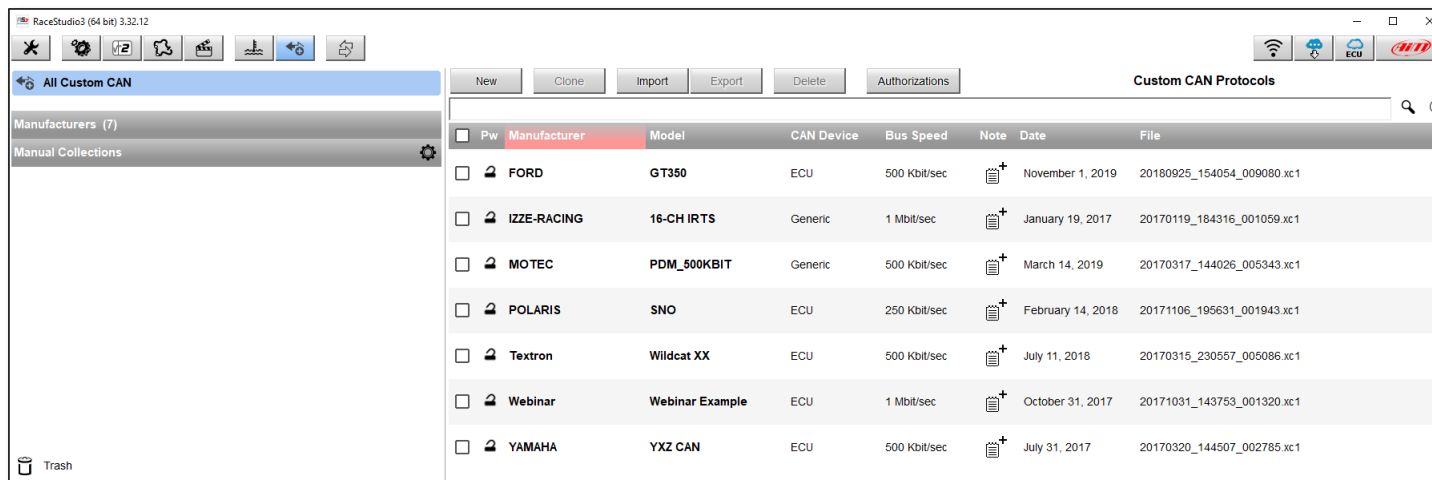
LearnFast™



[aimsports.com](https://www.aimsports.com)

# AiM Sports CAN

## A Deeper Look



|          | CAN ID | Byte0                | Byte1              | Byte2     | Byte3                                                                                 | Byte4 | Byte5 | Byte6 | Byte7    |  |
|----------|--------|----------------------|--------------------|-----------|---------------------------------------------------------------------------------------|-------|-------|-------|----------|--|
| Query    | 7E0    | Number of data Bytes | Service mode       | PiD value | Not used                                                                              |       |       |       |          |  |
| Response | 7E8    | Number of data Bytes | Service mode + 40H | PiD value | Value of PiD data requested starting with Byte 3 and possibilities to extend to Byte6 |       |       |       | Not used |  |

### Host:

Roger Caddell

AiM Sports - National Training Manager

### Co-Host:

Robbie Yeoman

AiM Sports - Technician

**Next Webinar:** Tuesday Feb 8<sup>th</sup>, 2022 - 10:00am Pac/1:00pm East

### Next Webinar

AiM Sports CAN – A Deeper Look



aimsports.com

LearnFast™

# Contact Information



## Host:

**Roger Caddell**

AiM Sports  
National Training Manager  
roger@aimsports.com



## Guest:

**David Smith**

*KartSpeed Solutions* – Owner  
Contact Phone (910) 262-1786  
KartspeedSolutions.com  
kartspeedsolutions@gmail.com