

Swing Profile: Cheat Sheet

Metric Definition

- **90th% BatSpeed** - The 90th percentile of the hitter's bat speed values
- **Exp Peak EV** - The estimated EV mean of a hitter's top 8th hardest hit balls modeled off Blast values, +/- the RMSE (Root Mean Square Error) of the estimate as a proxy for variability
- **Exp LA at Peak EV** - The estimated LA mean of a hitter's top 8th hardest hit balls modeled off Blast values, +/- the RMSE (Root Mean Square Error) of the estimate as a proxy for variability
- **Avg Efficiency** - The average efficiency value or bat speed divided by peak hand speed
- **Attack Angle Range** - The proportion of swings where attack angle is between 4 and 16°
- **Avg/Max Bat Speed** - The proportion of a hitter's average bat speed to their max bat speed recorded during a session

Plot Explanations

- **Tabular Metrics (Page 1, Top)** – A set of player averages from the specific imported player data versus four playing level averages of all qualified hitters. Conditional green and red shades are applied to the bat speed, efficiency, time to contact and attack angle averages as well as the expected batted ball metrics based on the imported player being either 0.5 standard deviations above (green) or below (red) the respective Affiliate averages.
- **Bat Speed Distributions (Page 1, Bottom Left)** - A density plot distribution of the hitter's bat speed values against in-gym hitter averages, split out by playing levels
- **Attack Angle Distributions (Page 1, Bottom Right)** - A density plot distribution of the hitter's attack angle values against in-gym hitter averages, split out by playing levels
- **Efficiency Plot (Page 2, Top Left)** - A linear model of best fit with 95% shaded confidence intervals plotted between peak hand speed (x axis) and bat speed (y axis)
- **Rotational Efficiency Plot (Page 2, Top Right)** - A linear model of best fit with 95% shaded confidence intervals plotted between rotational acceleration (x axis) and bat speed (y axis)
- **Avg, Max Bat Speed by Attack Angle (Page 2, Bottom Left)** - Average bat speed plotted by attack angle ranges from: *Below -10 degrees, -10 to -5 degrees; -5 to 0; 0 to 5; 5 to 10; 10 to 15; 15 to 20; 20 to 25, 25+*
 - If there is no batted ball data for any one of these ranges, it will not be plotted
- **Connection Distributions (Page 2, Bottom Right)** - Density plot distributions of the hitter's early connection and connection at impact scores

Continued Education

- Why do we collect the KPI's we do: [DRIVELINE HITTING KPI'S](#)
- A more in depth look at the relationship between batted ball and swing characteristic data:
 - [PAIRING BLAST AND HITTRAX DATA](#)
 - [PAIRING BLAST AND HITTRAX DATA Part 2: SPECIFIC FOCUSES](#)
 - [DEBUNKING BAT SPEED MYTHS](#)
- A general overview of past and current in-gym integrated hitting assessments: [PAIRING VARIOUS TOOLS AND TECH TOGETHER TO BETTER UNDERSTAND HITTER TENDENCIES](#)
- Protocol outlines for a specific drill (hitting plyos): [IMPLEMENTING HITTING PLYO BALLS INTO YOUR PRACTICE PLAN](#)
- TRAQ -> RESOURCES -> COMMON:
 - How Hitters Are Programmed
 - Randomized Training
 - Three Concepts That Every Hitter Should Understand