



The Cluboratory™

2016 Event Analysis

GCGA Tony Blom Metropolitan Amateur

Ohio Amateur

MVGA The Metropolitan

GCGA Metropolitan Mid-Amateur



Ohio

Dear 2016 Contestants:

Miles of Golf would like to thank Greater Cincinnati, Miami Valley and the Ohio Golf Association's for your cooperation. Allowing us to attend these events for data collection from the best amateur players in the state helps us become better. This is our third year collecting data and it has proven to be a useful tool, allowing us to adjust and maximize the way we perform club fittings. In this analysis we are going to show that getting fit, specifically at Miles of Golf in The Cluboratory, can help to increase your understanding of your swing and equipment. Ultimately improving your game and confidence while playing competitively. We'll also show how playing conditions can not only affect your ball flight, but also potentially how you think about the impending shot.

We also provided each player with a free **MAXX** driver, iron or putter fitting at our facility in Fairfield, Ohio. Many of you have already taken advantage of this. Our **MAXX** fitting is our tour level fitting experience using the TrackMan ball flight monitor for full swing fittings and Quintic ball roll system for putter fittings. All fittings are conducted in our state of the art fitting center, The Cluboratory. For more information please click the following link: <http://www.milesogolf.com/club-fitting/club-fitting-cincinnati/>

Data Analysis:

Repeat Customer:

One player who has attended many of the events host by these golf associations, and who has been a customer of Miles of Golf since we opened in 2014, has produced better results each year. This seems to be a direct correlation of understanding his swing and how he can get the most out of it. These are his numbers from the past three years:

	Club Speed	Ball Speed	Smash factor	Launch Angle	Spin rate	Attack Angle	Spin Axis	Carry Distance	Total Distance
2014	101.6	153.5	1.50	7.7	3175	-3.8	0.5	230.0	254.7
2015	102.2	154.4	1.50	7.0	3454	-2.4	2.2	232.1	258.7
2016	104.2	158.0	1.50	10.7	2537	-1.1	0.6	251.5	275.8

A large part of his improvement from year to year is his improvement of his attack angle. By adjusting his attack angle to be more positive, it required a change in equipment to maximize his ball flight potential. As a result of his swing and equipment change his launch angle has increased (2014 vs 2016), the spin rate has lower (2014 vs 2016), and his overall speed has increased. The ability to see his numbers from his 2014 participation helped us to better tailor his fitting experience, improving his driver performance as a result, and give him more confidence while in competition. The change in attack angle and getting fit for the correct driver loft and shaft profile improved his carry and total distance by more than 20 yards. The number of players we have helped is growing by the year and we hope to keep doing so in forms such as the one above.

Playing Conditions:

At the 2015 Ohio Amateur championship, the ball flight data we collected was, on average, some of the best we have recorded from an amateur field. We were interested to see if the results would be similar for the 2016 field. Playing conditions were more favorable for total distance this year as most of the players had the chance to hit with a tail wind. This is the main cause of the distance increase from 2015 vs 2016, but it also raises a couple new questions.

	Clubhead Speed	Ball Speed	Smash Factor	Spin Rate	Launch Angle	Attack Angle	Carry Distance	Total Distance
PGA Tour Ave.	113.0	167.0	1.48	2686	10.9	-1.3	275.0	295.0
Ohio AM 2015 Ave.	110.5	163.1	1.47	2949	10.9	-0.1	267.0	288.9
Ohio AM 2016 Ave.	111.9	162.4	1.45	3105	12.1	-0.4	277.5	301.3

Why is the smash factor average .02 lower, a big change for a field average? What was the cause of the club speed, spin, and launch increase? While it's simply an educated guess based on our experiences over the years of on course data collection, it boils down to what we'll call the "grip it and rip it" effect. I can speak from experience, but when I step to the tee with a tail wind, my instinct is to give it a little extra and double up on the distance gain already coming from the wind aided shot. Unfortunately, my experience also shows that

when I try and swing harder, my results are typically less than optimal, much like the less optimal numbers in 2016 vs 2015 that we see above.

Much like what was stated in the first part of the analysis, the cure to this is most likely knowing your swing and having properly fit equipment for your swing. If more guys would have taken their normal swing, quality of impact would have been better, resulting in more optimal ball flight data. Had that happened, we could have seen an even larger increase in distance as a result of the wind aided shot.

If you have any questions regarding Club Fitting, the PDF report, or our store please email me directly. It was great to see so many faces who have already been to our shop and look forward to meeting many more of you in the future.

Derek Skidmore
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Definitions:

Club Speed: Club head speed at impact

Ball Speed: Speed of the golf ball immediately after impact

Launch Angle: Initial angle of golf ball ascent, after impact

Spin rate: Amount of golf ball backspin immediately after impact.

Smash Factor: Ball speed divided by club speed. A measurement of impact efficiency. Theoretical maximum is 1.50.

Attack Angle: Upward or downward club movement through impact. Positive equals upward movement, negative equals downward movement.

Spin Axis: The amount of axis tilt a golf ball has. Negative equals left movement, positive equals right movement. There is no such thing as side spin; a golf ball can only spin backwards. The amount of axis tilt determines the left or right movement.

Carry: The amount of carry distance in yards to the horizon line.

Total: An estimated number. Based on a bounce and roll model developed from PGA tour playing conditions.