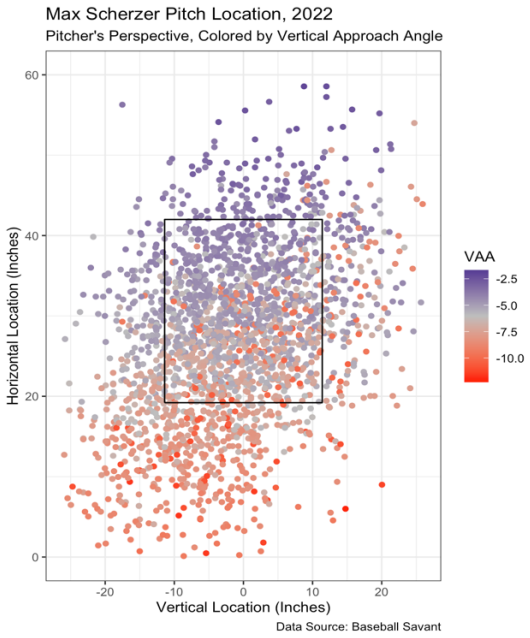
1. The attack plan for Max Scherzer vs. Juan Soto is based on pitch-characteristics, specifically Vertical Approach Angles in relation to contact quality and whiff rate. Public Statcast data for 2022 was used and manipulated using R. An actual measured swing-path by location in relation to pitch characteristics would add tremendous value to this attack plan.

Pitch Type	Avg Velo	Avg Spin	Spin Axis	Horz. Break	Vert. Break	Zone %	Vertical Approach Angle
4-Seam FB	94.0 mph	2385 rpm	222 deg	-11.1”	16.2”	60.4%	-4.71
Cutter	89.2 mph	2389 rpm	213 deg	16.7”	-9.3”	40.7%	-6.01
Slider	84.9 mph	2302 rpm	162 deg	3.2”	3.3”	45.3%	-7.42
Curveball	74.9 mph	2764 rpm	57 deg	0.3”	8.3”	49.0%	-9.58
Changeup	84.0 mph	1393 rpm	248 deg	-15.0”	3.9”	33.5%	-7.54



A few take aways regarding Scherzer’s arsenal:

- The 4-seam fastball shape lends itself to better utilization up in the zone, as evident by the 16.2” of rise (measured out of hand), indicating that it fights gravity longer along the pitch’s flight path.
- The 2.8-degree differential in VAA between the 4-seam and changeup is a plus and will help the changeup play up.
- The 14” horizontal break differential between the four-seamer and slider can potentially lead to more whiffs.
- North-south is the best direction to work in.

VAA BIN	Pitches	Swings	Avg EV	Avg LA	xwOBA on Contact	Whiff Rate
-11 to -9	271	47	80.1 mph	-1.2 deg	.234	25.5%
-9 to -8	341	79	85.4 mph	8.7 deg	.344	39.2%
-8 to -7	508	177	79.6 mph	-6.0 deg	.379	25.9%
-7 to -6	550	223	85.8 mph	1.7 deg	.380	15.2%
-6 to -5	588	244	88.1 mph	21.9 deg	.427	8.6%
-5 to -4	407	201	88.0 mph	39.6 deg	.471	18.4%
-4 to -3	87	38	90.2 mph	30.3 deg	.711	42.1%

When looking above at how Soto performed by ranges of VAA, we can see that his more level swing can hammer pitches that hit the zone at flat or shallow angles. The plan should be sticking to the curveball and changeup in the lower parts of the zone to find whiffs and what little chase there is. The 4-seam FB should be used up in the zone, ideally in pitcher friendly counts. The above plot shows Scherzer can get the 4-seamer to hit the zone at -4 degrees and up.