Edwin Diaz Pitcher Analysis

2025-04-13

Intro

This project will be an analysis into Edwin Diaz across 2022, 2024, and 2025 seasons (so far), looking into his decline in effectiveness and his changing approach. His 2022 season was historical, and while his metrics from 2024 indicate a strong campaign, his 2025 season has gotten off to a troubling start (NOTE: this is being made with data as of 4/13/2025, 5.2 IP / 6 G into the season for Diaz).

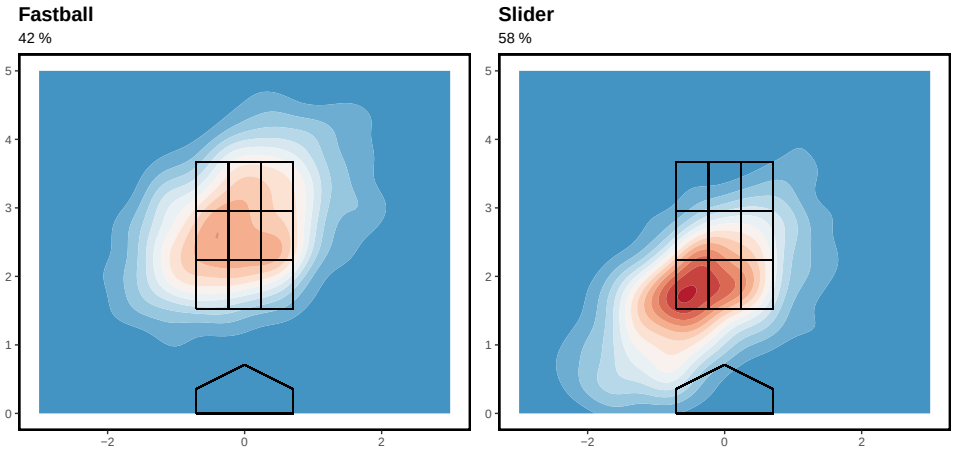
Data and Plots

Before discussing, it's important to look into some relevant ready-available metrics to evaluate Diaz's 2022, 2024 and 2025 seasons in comparison and to understand why there are concerns.

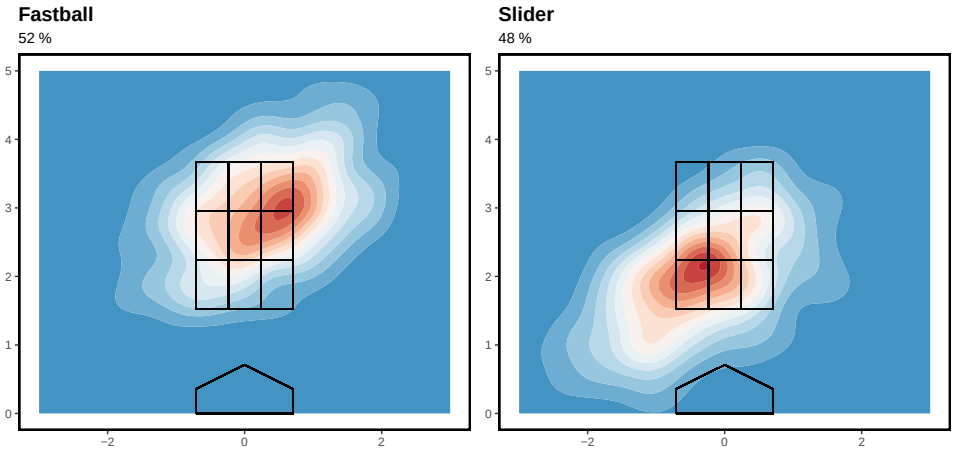
First load in data from the three seasons in question and define strike zone dimensions and making proper adjustments (make it from pitcher's view).

Now, onto the plots. First, I want to visualize Diaz's different pitches. We can see that he only has thrown a fastball and slider over these three years (can see this by doing `unique(diaz$pitch_type)`).

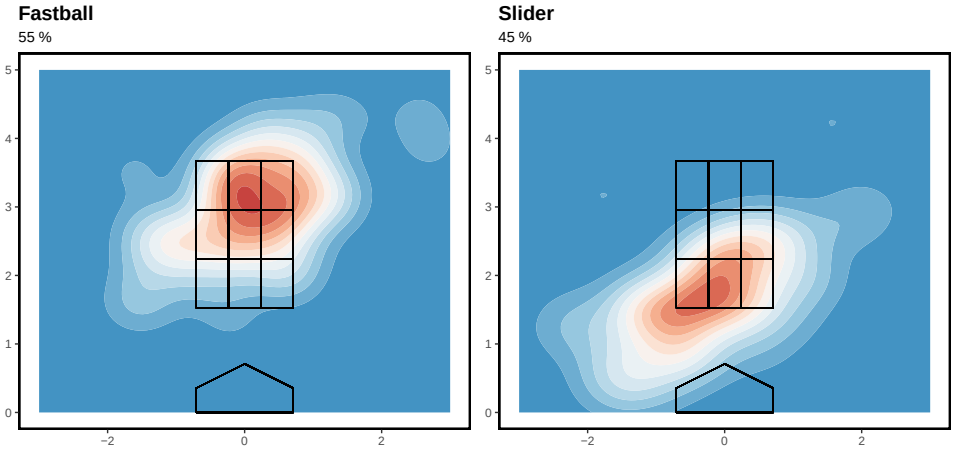
Diaz 2022 (Contour)



Diaz 2024 (Contour)

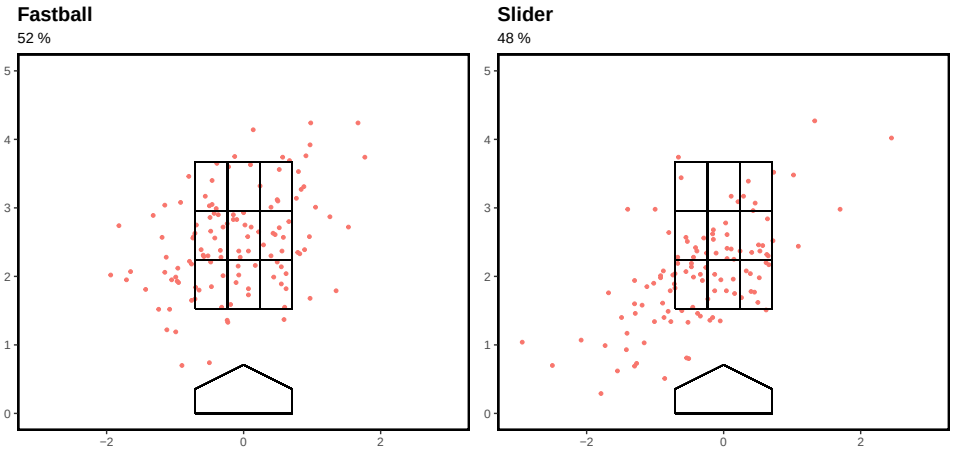


Diaz 2025 (Contour)

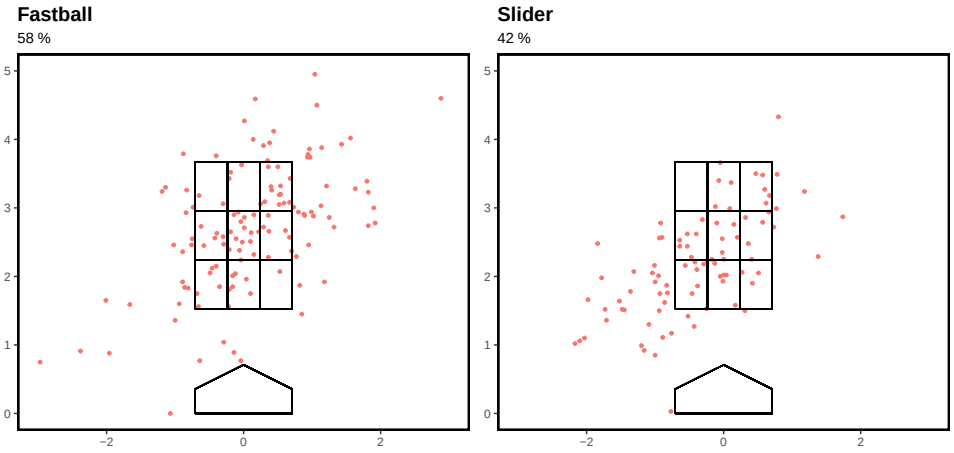


One interesting takeaway from these plots is the differentiation in the pitch usage. Diaz is less reliant on his slider compared to his successful 2022 season, and his fastball has begun to creep up higher in the zone. With the fastball climbing up in the zone, his approach seems to be changing - instead of tunneling effectively in the left half of the zone with fastball and slider, he seems to just be trying to blow fastballs by hitters up and away. I also think that this shift is related to changes in control. Diaz has noticeably been working from behind in the count much more often as of late - from Baseball Savant, Diaz's FirstPitchStrike% by season looks like 71.4% (2022), 63.0% (2024), and 50.0% (2025, through April 12 games). Since this is a big dropoff and can explain the tendency for more fastballs, I'd like to look at how he has approached 0-0 counts and if there's a difference over the years.

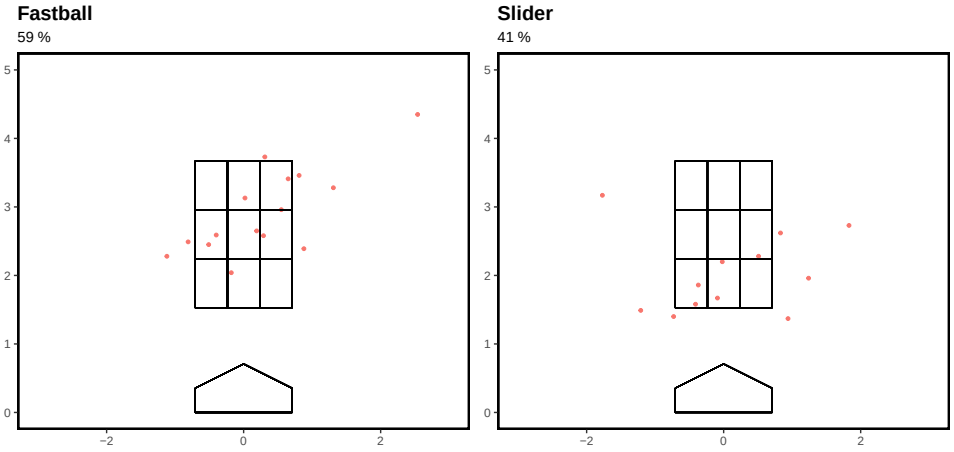
Diaz 2022, 0−0



Diaz 2024, 0−0

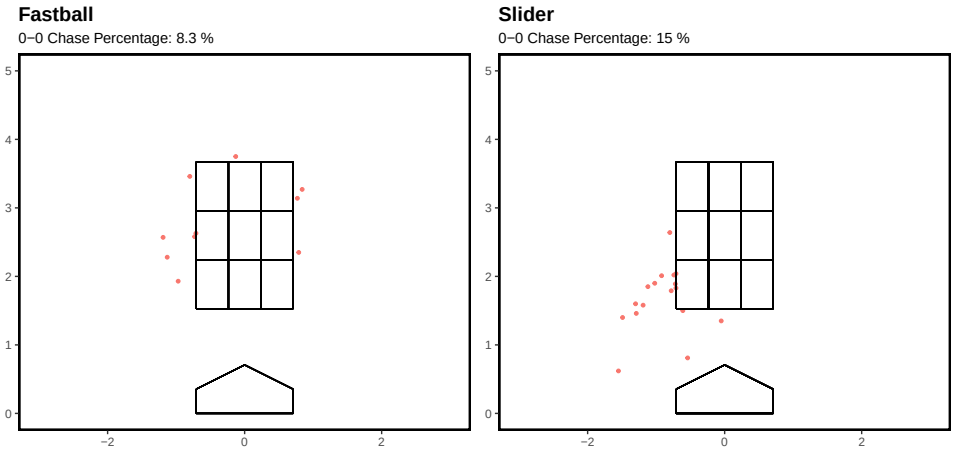


Diaz 2025, 0−0

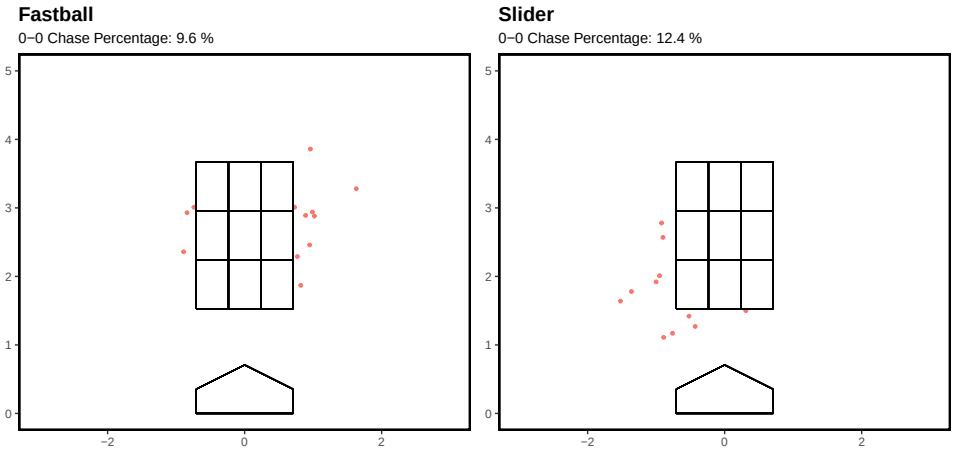


The trend of increasing fastballs shows up here still, and you can see his fastball gravitating upwards in these 0-0 counts. While 2025 is really tough to judge, after 2022 his fastball seemed to be trending up in the zone further and his slider in 2025 is hitting the wrong side of the plate (inside on RHH). {What it shows}.

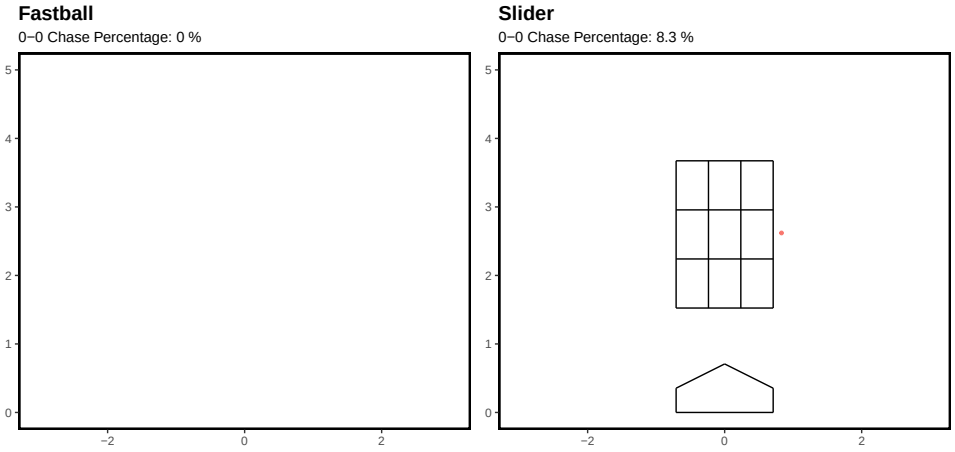
Diaz 2022, 0–0 Chases



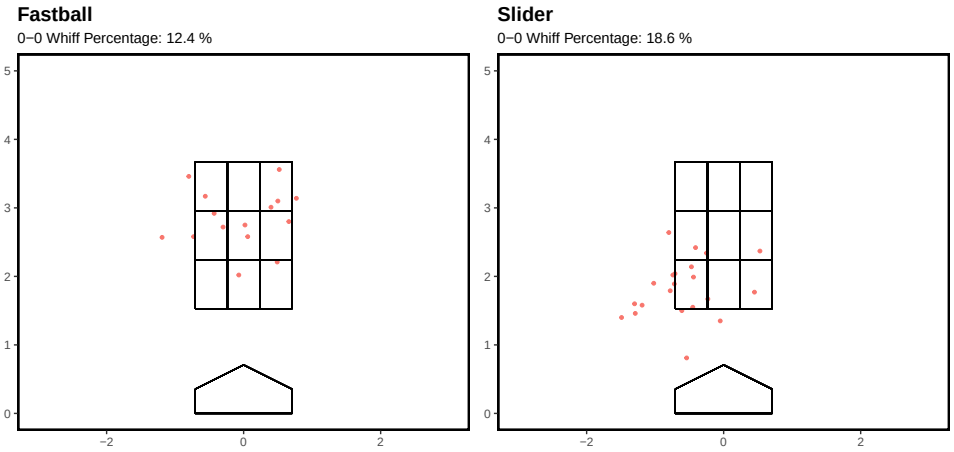
Diaz 2024, 0–0 Chases



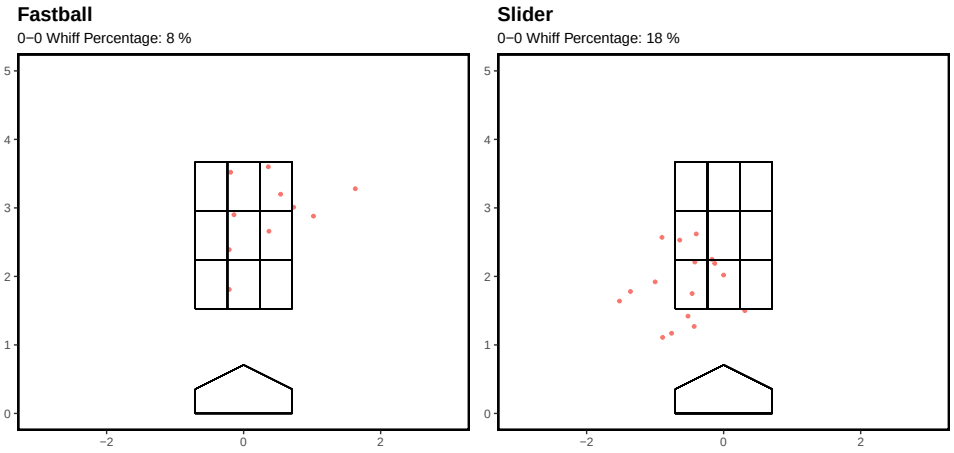
Diaz 2025, 0–0 Chases



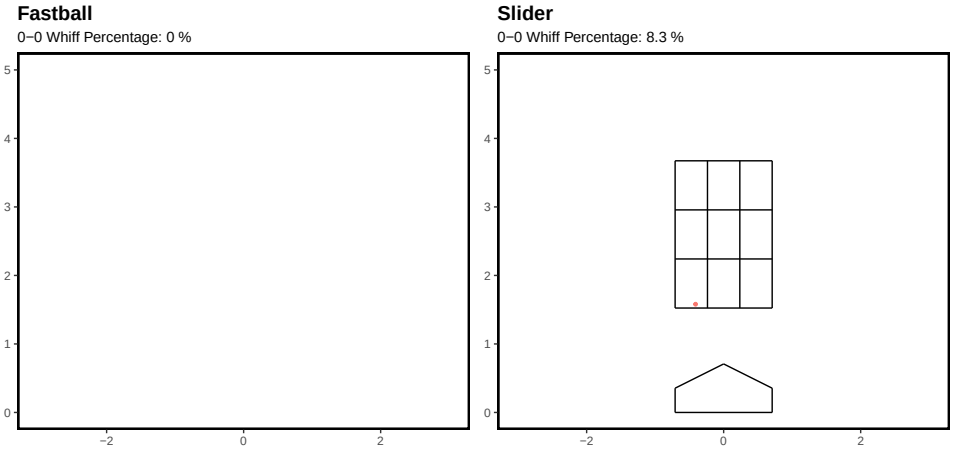
Diaz 2022, 0−0 Whiffs



Diaz 2024, 0−0 Whiffs



Diaz 2025, 0−0 Whiffs



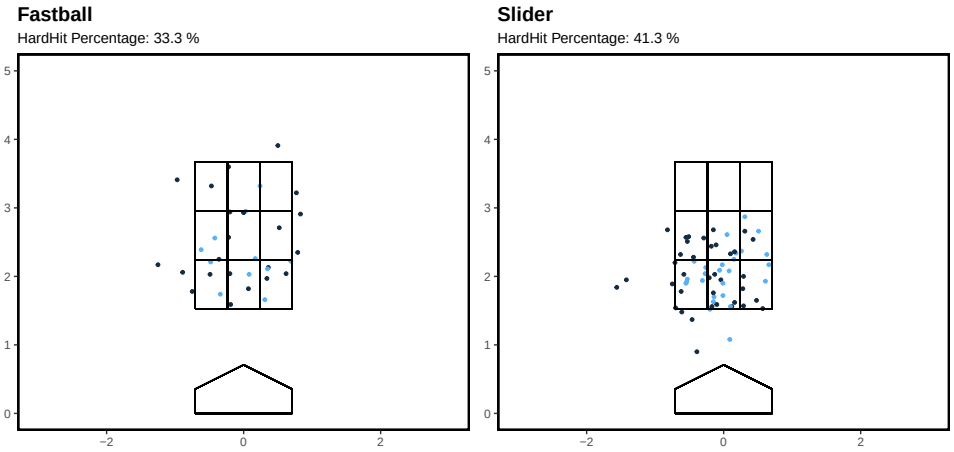
{Comment on the two plots and DT}.

Something major that should be focused on is Pitch Tempo, or the time between pitches. Diaz missed 2023 with a knee injury, which was the same year that the pitch clock was implemented into MLB games to speed up pitchers, hitters, and overall game time. From 2022 to 2024/2025, Diaz has definitely had to speed up - his average time between pitches in 2022 was 17.4 seconds, and in 2024 it was 13.8 (13.5 in 2025). With a "Fast" pitch tempo being where the pitcher takes 15 seconds or less between pitches, Diaz's Fast% has skyrocketed from 24.4% in 2022 to 71.6% in 2024 (63.6% in 2025). With a faster pace, it's possible Diaz has been more comfortable finding his fastball rather than his slider, which may explain its increased prominence.

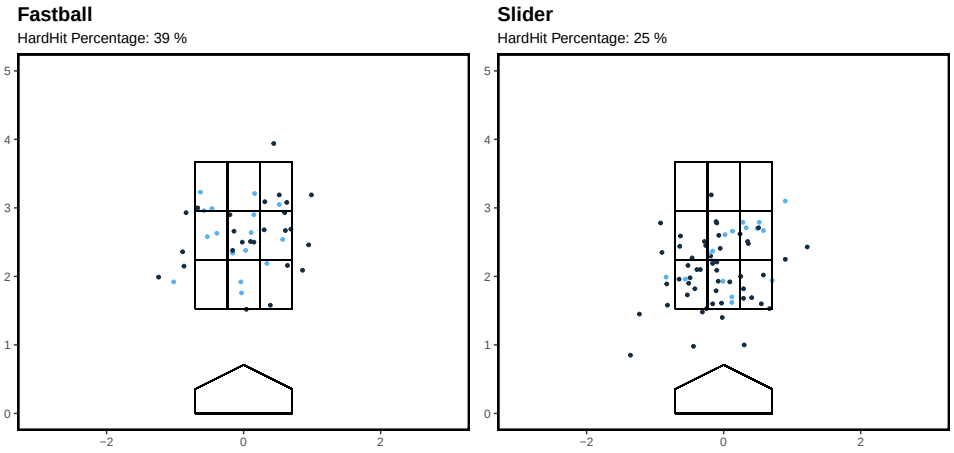
{PLOT?}.

One more area to check out is HardHit%*. In 2022, Diaz's HardHit% was 38.1% (49th percentile), in 2024 it was 30.3% (97th percentile), and in 2025 thus far it is 53.3% (9th percentile). The spike in 2024 and even the middling performance in 2022 compared with the rough start in 2025 begs the question of where this hard contact is coming from.

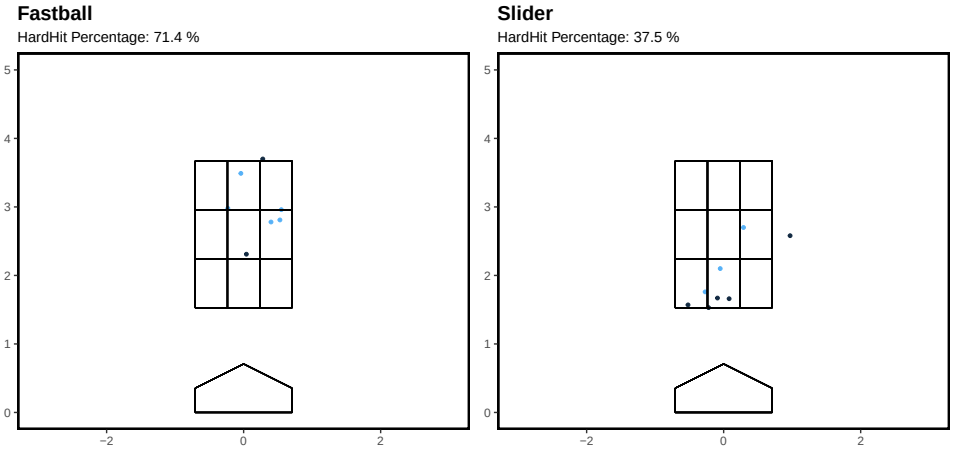
Diaz 2022, HardHit



Diaz 2024, HardHit



Diaz 2025, HardHit



{explain plot and DT}.

Summary/Recommendations

- Bring the fastball down and tunnel with the slider
- Practice pacing, especially early in counts
- Get the slider back to the left side of the plate - this is where chases come from

*HardHit defined as any hit 95MPH EV or higher

Diaz Pitch Results by Count Type

pitch_type	total	chases	whiffs	chase_perc	whiff_perc
2022 - 0-0					
FF	121	10	15	8.3	12.4
SL	113	17	21	15.0	18.6
2022 - ahead					
FF	130	24	31	18.5	23.8
SL	230	83	72	36.1	31.3
2022 - behind					
FF	97	6	12	6.2	12.4
SL	104	23	25	22.1	24.0
2022 - even					
FF	41	8	6	19.5	14.6
SL	92	39	36	42.4	39.1
2024 - 0-0					
FF	125	12	10	9.6	8.0
SL	89	11	16	12.4	18.0
2024 - ahead					
FF	143	25	27	17.5	18.9
SL	147	43	26	29.3	17.7
2024 - behind					
FF	127	13	18	10.2	14.2
SL	110	23	27	20.9	24.5
2024 - even					
FF	80	12	11	15.0	13.8
SL	91	25	20	27.5	22.0
2025 - 0-0					
FF	17	0	0	0.0	0.0
SL	12	1	1	8.3	8.3
2025 - ahead					
FF	24	3	3	12.5	12.5
SL	12	2	1	16.7	8.3
2025 - behind					
FF	17	1	2	5.9	11.8
SL	22	6	5	27.3	22.7
2025 - even					
FF	7	1	2	14.3	28.6
SL	8	3	3	37.5	37.5

Diaz Pitch Results by Count Type

pitch_type	total	chases	whiffs	chase_perc	whiff_perc
2022 - 0-0					
FF	121	10	15	8.3	12.4
SL	113	17	21	15.0	18.6
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FF	130	24	31	18.5	23.8
SL	230	83	72	36.1	31.3
2022 - behind					
FF	97	6	12	6.2	12.4
SL	104	23	25	22.1	24.0
2022 - even					
FF	41	8	6	19.5	14.6
SL	92	39	36	42.4	39.1
2024 - 0-0					
FF	125	12	10	9.6	8.0
SL	89	11	16	12.4	18.0
2024 - ahead					
FF	143	25	27	17.5	18.9
SL	147	43	26	29.3	17.7
2024 - behind					
FF	127	13	18	10.2	14.2
SL	110	23	27	20.9	24.5
2024 - even					
FF	80	12	11	15.0	13.8
SL	91	25	20	27.5	22.0
2025 - 0-0					
FF	17	0	0	0.0	0.0
SL	12	1	1	8.3	8.3
2025 - ahead					
FF	24	3	3	12.5	12.5
SL	12	2	1	16.7	8.3
2025 - behind					
FF	17	1	2	5.9	11.8
SL	22	6	5	27.3	22.7
2025 - even					
FF	7	1	2	14.3	28.6
SL	8	3	3	37.5	37.5

Diaz Hard Hit by Count Type

pitch_type	total	hardhit	hardhit_perc
2022 - 0-0			
FF	11	4	36.4
SL	13	6	46.2
2022 - ahead			
FF	12	5	41.7
SL	26	10	38.5
2022 - behind			
FF	6	0	0.0
SL	12	6	50.0
2022 - even			
FF	4	2	50.0
SL	12	4	33.3
2024 - 0-0			
FF	12	4	33.3
SL	7	1	14.3
2024 - ahead			
FF	12	3	25.0
SL	27	10	37.0
2024 - behind			
FF	10	6	60.0
SL	20	4	20.0
2024 - even			
FF	7	3	42.9
SL	14	2	14.3
2025 - 0-0			
FF	1	1	100.0
SL	1	0	0.0
2025 - ahead			
FF	2	0	0.0
SL	2	0	0.0
2025 - behind			
FF	1	1	100.0
SL	4	3	75.0
2025 - even			
FF	3	3	100.0
SL	1	0	0.0