



# GAME NOTES

## CARDINALS 2026 SPRING RECAP

Record	Attendance
vs. NL.....5-5-1	Home (7).....30,753
vs. AL.....3-0-0	Home Avg .....4,393
vs. WBC.....0-1	Road (7).....31,327
at Home .....3-5-1	Road Avg .....4,475
on Road .....5-1-0	Total.....62,080
at RDCS* .....4-5-1	Home High.....5,612

\*Includes road games at Roger Dean Chevrolet Stadium

March 7 vs. Mets

## STL 2026 FARM SYSTEM RANKINGS

Baseball America.....2	ESPN.....7
Baseball Prospectus..2	The Athletic.....11
MLB Pipeline.....4	FanGraphs.....TBA

## TOP 30 CARDINALS PROSPECTS

1. SS JJ Wetherholt	16. RHP Tink Hence
2. LHP Liam Doyle	17. OF Emanuel Luna
3. C Rainiel Rodriguez	18. INF Jesus Baez
4. OF Joshua Báez	19. OF Nathan Church
5. LHP Quinn Mathews	20. OF Tai Peete
6. SHP Jurrangel Cijntje	21. LHP Cooper Hjerpe
7. LHP Brandon Clarke	22. LHP Cade Crossland
8. RHP Tanner Franklin	23. 1B/3B Deniel Ortiz
9. LHP Ixan Henderson	24. LHP Brycen Mautz
10. C Jimmy Crooks	25. LHP Braden Davis
11. C Leo Bernal	26. 1B Jack Gurevitch
12. RHP Yhoiker Fajardo	27. RHP Frank Elissalt
13. SS Yairo Padilla	28. RHP Nate Dohm
14. SS/OF Ryan Mitchell	29. 2B/OF Bryan Torres
15. RHP Tekoah Roby	30. OF Zach Levenson

## CARDINALS ON WBC ROSTERS (12)

RHP Riley O'Brien	Korea
C Leo Bernal	Panama
RHP Gordon Graceffo	Italy
INF Thomas Saggese	Italy
RHP Luis Gastelum	Mexico
OF Bryan Torres	Puerto Rico
ATC Chris Conroy	Puerto Rico
COA Stubby Clapp	Canada
COA Julio Rangel	Panama
OF Matt Koperniak	Great Britain
INF Noah Mendlinger*	Israel
OF Zach Levenson*	Israel

\*Minor League Camp

## RECENT NON-ROSTER INVITEES TO MAKE CARDS OPENING DAY ROSTERS

2025: none	2015: RHP Carlos Villanueva
2024: OF Victor Scott II	2014: RHP Pat Neshek
2023: INF Taylor Motter	2013: none
OF Jordan Walker	2012: RHP Scott Linebrink
2022: RHP Aaron Brooks	2011: RHP Miguel Batista
RHP Andre Pallante	2010: none
2021: none	2009: OF Colby Rasmus
2020: RHP Kodi Whitley	3B David Freese
2019: C Matt Wieters	INF Joe Thurston
2018: C Francisco Peña	2008: LHP Ron Villone
2017: C Eric Fryer	INF Rico Washington
2016: C Eric Fryer	2007: none
OF Jeremy Hazelbaker	

## GOLD GLOVES BY TEAM - MLB HISTORY

1. Cardinals .....100	6. Pirates.....50
2. Orioles .....72	7. Red Sox .....49
3. Yankees .....68	8. Phillies .....48
4. Braves.....59	9. Dodgers .....47
5. Reds.....55	10. Twins/Giants/Cubs.44

## RECENT CARDINALS TRANSACTIONS

**March 8:** Optioned RHP **Tink Hence**, INF **César Prieto**, 2B/OF **Bryan Torres**, C **Leo Bernal**, and C **Jimmy Crooks** to Memphis (AAA). Re-assigned RHP **Skylar Hales** to minor league camp.

**March 2:** Optioned RHP **Tekoah Roby** to Memphis (AAA). Re-assigned SHP **Jurrangel Cijntje**, LHP **Pete Hansen**, LHP **Ixan Henderson**, RHP **Austin Love**, RHP **Hancel Rincón**, RHP **Sem Robberse**, LHP **Jared Shuster**, LHP **Zack Thompson**, C **Grayson Tarlow**, and OF **Mike Antico** to minor league camp.



# St. Louis Cardinals-ss (8-5-1) vs. Baltimore Orioles (7-7-2) & at Houston Astros (4-8-3)

Spring Training Games No. 15 & 16 • Monday, March 9, 2026  
LHP Matthew Liberatore vs. RHP Trey Gibson RHP Richard Fitts vs. RHP Cristian Javier

**JUMPIN' JUPITER:** The St. Louis Cardinals are in the midst of their 29th Spring Training at Roger Dean Chevrolet Stadium (1998-2026) ... Two weeks from today on Monday, March 23, the Cardinals break camp in Florida and fly to Springfield, Mo. to play an exhibition with the Double-A Cardinals at Hammons Field at 6:05 p.m. CT.

**SPLIT SQUAD SHOWDOWNS:** St. Louis begins the second half of its spring slate with a pair of split squad games today against the Baltimore Orioles at 1:05 p.m. in Jupiter and at the Houston Astros at 1:05 p.m. in West Palm Beach ... From Roger Dean Chevrolet Stadium, Iron Men **Chip Caray** and **Brad Thompson** work their third consecutive game on Cardinals.TV while **Tom Ackerman**, **Stefan Caray**, and **Mike Claiborne** call the action on KMOX.

**BIRDS OF A FEATHER:** The Cardinals play the second of two games vs. Baltimore this Spring, hosting the Orioles in Jupiter for only the third time (2015, 2018, 2026) since the O's moved from Fort Lauderdale to Sarasota in 2010 ... The Cardinals enjoyed a 10-2 win on Friday in Sarasota, highlighted by home runs by **Nelson Velázquez** and **Joshua Báez**.

**AREA 51:** The Cardinals recently reduced their Spring Training roster to 51 players after optioning RHP **Tink Hence**, INF **César Prieto**, 2B/OF **Bryan Torres**, C **Leo Bernal**, and C **Jimmy Crooks** to Memphis (AAA), and re-assigning RHP **Skylar Hales** to minor league camp.

**BE OUR GUEST:** Those scheduled to visit Jupiter in a coaching capacity this Spring Training include Cardinals Special Assistants **Yadier Molina** and **Willie McGee**, and Guest Instructors **Adam Wainwright**, **Ozzie Smith**, and **Kolten Wong**, who arrives in Jupiter today.

**WORLD CLASS:** The Cardinals have nine players, two coaches, and one athletic trainer on provisional rosters for the 2026 World Baseball Classic ... Among those in Major League camp include **Riley O'Brien** (Korea), **Leo Bernal** (Panama), **Gordon Graceffo** (Italy), **Thomas Saggese** (Italy), **Luis Gastelum** (Mexico), **Matt Koperniak** (Great Britain), **Bryan Torres** (Puerto Rico), coaches **Stubby Clapp** (Canada) and **Julio Rangel** (Panama), and Certified Assistant Athletic Trainer **Chris Conroy** (Puerto Rico).

**NO SPRING CHICKEN:** Happy 41st birthday to Cardinals PR & Communications Manager **Carson Shipley** aka "The Big Chicken" ... Other notables born today include **Vyacheslav Molotov** (1890-1986), Italian explorer **Amerigo Vespucci** (1454-1512), Yankees manager **Aaron Boone** (53), former All-Star catcher **Benito Santiago** (61), former NBA guard **Mahmoud Abdul Rauf** (57), former NFL linebacker **Brian Bosworth** (61), former Chess champion **Bobby Fischer** (b. 1943-2008), and Hall of Famers **Arky Vaughan** (1912-52) and **Billy Southworth** (1893-1969).

**SILVER AND GOLD:** The 2026 St. Louis Cardinals Media Guide can be downloaded now at [Cardinals-Pressbox.com](http://Cardinals-Pressbox.com), while printed copies will be available for purchase for \$20 at [Cardinals.com/mediaguide](http://Cardinals.com/mediaguide) and at Busch Stadium near Opening Day ... The 2026 edition features **Alec Burleson** and **Masyn Winn** and on the cover displaying their offseason hardware.

**FEELING A DRAFT:** The Cardinals own six of the top 86 picks (13, 32, 50, 68, 72, 86) in the upcoming 2026 MLB Draft, the most of any Major League team ... Since the DeWitt ownership group (1996-present), 2026 will be only the third time St. Louis has possessed as many as six of the top 86 selections, following 2005 (6 of top 78) and 2012 (6 of top 86).

**IN FULL BLOOM:** The Cardinals introduced **Chaim Bloom** on Sept. 30 as the team's new President of Baseball Operations taking the post that had been held by **John Mozeliak** who headed the team's baseball operations since Oct. of 2007 ... Bloom, who worked previously with the Boston Red Sox (2020-23) and Tampa Bay Rays (2005-19) had served as an advisor for the Cardinals the past two seasons.

**GEORGE KISSELL AWARD:** Dominican Summer League Cardinals (R) Manager **Fray Peniche** (pah-NEE-chee) was recently named the 2025 recipient of the George Kissell Award ... Since 2008, winners have been selected by a poll of Cardinals minor league staff ... The award is presented to a Cardinals staffer who exhibits excellence in player development ... Peniche, 52, enters his 16th season as a coach in the Cardinals organization (28th overall), all as manager for the DSL Cardinals at the Cardinals Dominican Academy in Boca Chica.

## CARDINALS 2026 SPRING SCHEDULE & RESULTS

Date/Opp.	Time/Result	Probable Starters/ Winner-Loser-Save	Record	Att.	Broadcast Details/ Game Highlights
2/21 vs. WSH	L, 6-2	Yean-Fernandez	0-1-0	4,267	Church HR; Liberatore 2.0 IP, 4 K; Gorman 1-2
2/22 at HOU	W, 6-5	Rajcic-Muñoz-Saladin	1-1-0	2,598	Rajcic 2.0 IP; Rodriguez 2B; Pozo 2B, 2 RBI
2/23 vs. MIA	W, 5-4	Bedell-Martin	2-1-0	3,746	Mautz 2.0 IP; Rivas 2-2, game-tying RBI 2B
2/24 at WSH	L, 6-1	Luckham-Molina	2-2-0	2,228	Pallante 2.0 IP; Mendoza 2-3; Rivas 1-1
2/25 at NYM	W, 3-0	Fitts-Tong	3-2-0	4,922	Fitts 2.0 IP; Gorman 3-R HR; Davis 2-3, 2 RBI
2/26 vs. HOU	W, 9-4	Shuster-Willingham	4-2-0	3,758	HR's by Pozo, Burly, Crooks & Gazdar
2/27 vs. NYM	L, 14-3	Peralta-Mathews	4-3-0	4,717	Wetherholt solo HR; 2B by Saggese, Church, Davis
2/28 at MIA^	W, 10-2	McGreevy-Perez	5-3-0	3,766	Wetherholt 2-2, 3 RBI; Prieto 2-4, HR, 2 RBI
3/1 vs. PIT	L, 6-1	Barco-Leahy	5-4-0	4,754	Pozo 1B; Leahy 2.2 IP; Mautz 2.1 IP
3/2 vs. MIA	W, 3-2	Blewett-Belgrave	6-4-0	3,899	Pallante 3.0 IP; Ledbetter walk-off RBI single
3/3	OPEN DATE				
3/4 vs. NICARAGUA	L, 2-1	Ramirez-Liberatore-Worley	6-4-0	3,424	Liberatore 3.1 IP, 5 K; Yerzy HR; Herrera 2-2
3/5 at PIT	W, 3-2	Svanson-Sanders-Fernandez	7-4-0	5,380	Gorman HR; May 3 IP, 0 R; Mathews 2.2 IP, 7 K
3/6 at BAL	W, 10-2	McGreevy-Suarez	8-4-0	6,510	McGreevy 4.0 IP; Velázquez HR; Báez HR
3/7 vs. NYM	L, 3-2	Weninger-Saladin	8-5-0	5,612	Leahy 4.0 IP, 5 K; Baez HR; Burleson 3-3
3/8 at MIA^	T, 2-2	---	8-5-1	5,923	Pallante 4.0 IP, Pagés RBI 2B; Pozo 1-2
3/9 vs. BAL	1:05	LHP Matthew Liberatore vs. RHP Nestor German			Cardinals TV/Cardinals.com
at HOU	1:05	RHP Richard Fitts vs. RHP Cristian Javier			Astros Radio (KMBE)
3/10 at NYM	1:10	TBA vs. LHP David Peterson			Cardinals.com/SNY
3/11 at WSH	1:05				Cardinals.com
3/12 vs. NYM	1:05				KMOX/Cardinals TV
3/13 vs. HOU	6:05				KMOX/Cardinals TV
3/14 at MIA^	1:10				KMOX
3/15 vs. WSH	1:05				KMOX
3/16	OPEN DATE				
3/17 at WSH	1:05				Nationals TV/Cardinals.com
3/18 vs. HOU	1:05				KMOX/Cardinals TV
3/19 vs. WSH	1:05				KMOX
	Spring Breakout vs. WSH				
3/20 at NYM	1:10				Cardinals.com/SNY
3/21 vs. MIA	1:05				KMOX
3/22 at HOU	12:05				KMOX/Space City TV
3/23 at Spfld. (AA)	7:05				KMOX/Matrix Midwest

Game times are local and subject to change

^ Cardinals are "visiting" team at Roger Dean

# TODAY'S STARTING PITCHERS

## #32 MATTHEW LIBERATORE · LHP · 6-5 · 220 LBS · AGE 26

- Makes his third Grapefruit League start today vs. the Orioles.
- Also pitched 3.1 innings (65 pitches) against Team Nicaragua on March 4 in Jupiter.
- Chose to switch to uniform No. 32 prior to 2026 season in honor of Hall of Fame left-handed pitcher Sandy Koufax, whom he grew up admiring.
- Made his Major League debut at Pittsburgh on May 21, 2022 at PNC Park, a day after childhood friend and Cardinals teammate Nolan Gorman did so at PNC Park.
- Made full-time transition to the starting rotation in 2025 and set single-season career highs in nearly every category.
- His 29 starts in 2025 were the most by a St. Louis southpaw since Jaime García (32 in 2011), and the most by any Cardinals left-hander age 25 or younger since the same 24-year-old García in 2011.
- Was acquired by the Cardinals from the Rays in a four-player trade in 2020, with a compensation pick that netted the Cardinals RHP Tink Hence.

## #35 RICHARD FITTS · RHP · 6-3 · 245 LBS · AGE 26

- Makes his second Grapefruit League start today at Houston Astros.
- Acquired by the Cardinals with LHP Brandon Clarke and a player to be named later in exchange for RHP Sonny Gray and cash considerations, November 25, 2025.
- Has been traded twice in his four year professional career. Originally drafted by the New York Yankees in 2021, but was packaged to the Red Sox in a four-player trade for OF Alex Verdugo in 2023.
- Pitched 18.2 consecutive innings without allowing an earned run (Sept. 8-20, 2024), longest to begin a career in Red Sox history. *Elias Sports Bureau*
- Tossed consecutive starts with 5.0 innings and zero earned runs in his first two starts, joining Tanner Houck (2020), Vaughn Eshelman (1995) and Dave Ferris (1945) as four Red Sox pitchers to accomplish the feat.
- Joined Cincinnati's Andrew Abbott (2023) as the only two pitchers in MLB history (since 1901) to throw 5.0+ innings and allow zero earned runs in each of their first three MLB starts.
- Became the 4th pitcher in Red Sox history to start at home and allow zero earned runs with 5.0 or more innings pitched in their Major League debut (Aaron Sele, 1993), Duane Wilson (1958) and Larry Pape (1909).

# PITCHING LOGS

SCOTT BLEWETT (RHP)										PACKY NAUGHTON (LHP)									
DATE-OPP	DEC	IP	H	R	ER	BB	SO	DATE-OPP	DEC	IP	H	R	ER	BB	SO				
2/22-HOU	---	1.0	2	1	1	2	1	2/21-WSH	---	1.0	0	0	0	0	1				
2/26-HOU	H-1	1.0	1	0	0	0	2	2/24-WSH	---	1.0	1	0	0	0	2				
2/27-MIA	W-1	1.0	0	0	0	1	1	2/28-MIA	---	1.0	0	0	0	0	1				
3/8-MIA	---	1.0	0	0	0	0	1	3/6-BAL	---	1.0	1	0	0	0	1				
JUSTIN BRUIHL (LHP)										RILEY O'BRIEN (RHP)									
DATE-OPP	DEC	IP	H	R	ER	BB	SO	DATE-OPP	DEC	IP	H	R	ER	BB	SO				
2/24-WSH	---	1.0	0	0	0	0	1	3/7-NYM	H-1	1.0	1	0	0	1	0				
2/27-NYM	---	0.2	1	3	3	2	1												
3/5-PIT	H-1	1.0	0	0	0	0	2												
3/8-MIA	---	1.0	1	1	1	0	1												
RYAN FERNANDEZ (RHP)										ANDRE PALLANTE (RHP)									
DATE-OPP	DEC	IP	H	R	ER	BB	SO	DATE-OPP	DEC	IP	H	R	ER	BB	SO				
2/21-WSH	L-1	0.2	2	4	4	2	1	2/24-WSH	---	2.0	0	1	1	1	2				
2/27-NYM	---	1.0	1	0	0	0	1	3/2-MIA	---	3.0	3	1	1	0	2				
3/2-MIA	---	1.0	0	0	0	0	0	3/8-MIA	---	4.0	2	1	1	1	3				
3/5-PIT	S-1	1.0	0	0	0	0	1												
RICHARD FITTS (RHP)										MATT PUSHARD (RHP)									
DATE-OPP	DEC	IP	H	R	ER	BB	SO	DATE-OPP	DEC	IP	H	R	ER	BB	SO				
2/25-NYM	W-1	2.0	2	0	0	0	1	2/27-NYM	---	1.0	1	1	1	0	1				
3/4-NIC	---	3.0	4	0	0	0	4	3/2-MIA	---	1.0	1	1	1	0	1				
LUIS GASTELUM (RHP)										MAX RAJIC (RHP)									
DATE-OPP	DEC	IP	H	R	ER	BB	SO	DATE-OPP	DEC	IP	H	R	ER	BB	SO				
2/21-WSH	---	1.0	0	0	0	0	1	2/22-HOU	W-1	2.0	0	0	0	0	1				
2/25-NYM	---	1.0	0	0	0	0	1	2/28-MIA	---	2.0	1	0	0	1	1				
GORDON GRACEFFO (RHP)										NICK RAQUET (LHP)									
DATE-OPP	DEC	IP	H	R	ER	BB	SO	DATE-OPP	DEC	IP	H	R	ER	BB	SO				
2/25-NYM	H-1	1.0	3	0	0	0	0	2/22-HOU	---	1.0	1	0	0	0	2				
2/28-MIA	---	0	0	0	0	0	2	2/26-HOU	---	1.0	1	1	1	1	1				
MATTHEW LIBERATORE (LHP)										JOJO ROMERO (LHP)									
DATE-OPP	DEC	IP	H	R	ER	BB	SO	DATE-OPP	DEC	IP	H	R	ER	BB	SO				
2/22-HOU	---	2.0	2	0	0	0	4	2/23-MIA	---	1.0	1	1	1	1	0				
2/26-HOU	---	3.0	2	1	1	1	3	2/26-HOU	---	1.0	0	0	0	1	1				
3/4-NIC	L-1	3.1	5	2	2	0	5	3/1-PIT	---	1.0	1	1	1	0	1				
KYLE LEAHY (RHP)										CHRIS ROYCROFT (RHP)									
DATE-OPP	DEC	IP	H	R	ER	BB	SO	DATE-OPP	DEC	IP	H	R	ER	BB	SO				
2/22-HOU	---	2.0	1	1	1	0	3	2/22-HOU	H-1	1.0	1	0	0	0	0				
3/1-PIT	L-1	2.2	4	4	4	3	1	2/25-NYM	H-2	1.0	1	0	0	0	0				
3/7-NYM	---	4.0	0	0	0	0	5	3/1-PIT	---	1.0	1	0	0	0	2				
QUINN MATHEWS (RHP)										GEORGE SORIANO (RHP)									
DATE-OPP	DEC	IP	H	R	ER	BB	SO	DATE-OPP	DEC	IP	H	R	ER	BB	SO				
2/21-WSH	---	1.2	2	2	2	2	2	2/27-NYM	---	1.0	2	1	0	0	2				
2/27-NYM	L-1	2.2	1	1	1	2	3	3/2-MIA	---	1.0	1	0	0	0	0				
3/5-PIT	---	2.2	2	2	1	0	7	3/6-BAL	H-1	1.0	1	0	0	0	0				
BRYCEN MAUTZ (LHP)										RYNE STANEK (RHP)									
DATE-OPP	DEC	IP	H	R	ER	BB	SO	DATE-OPP	DEC	IP	H	R	ER	BB	SO				
2/23-MIA	---	2.0	1	0	0	2	1	2/28-MIA	---	1.0	0	0	0	0	2				
3/1-PIT	---	2.1	1	1	1	3	3	3/4-NIC	---	1.0	0	0	0	1	1				
3/7-NYM	---	2.0	3	2	1	2	2	3/8-MIA	---	1.0	0	0	0	0	1				
DUSTIN MAY (RHP)										MATT SVANSON (RHP)									
DATE-OPP	DEC	IP	H	R	ER	BB	SO	DATE-OPP	DEC	IP	H	R	ER	BB	SO				
3/5-PIT	---	3.0	1	0	0	1	1	2/25-NYM	H-1	1.0	1	0	0	0	1				
MICHAEL McGREEVY (RHP)										BRUCE ZIMMERMANN (RHP)									
DATE-OPP	DEC	IP	H	R	ER	BB	SO	DATE-OPP	DEC	IP	H	R	ER	BB	SO				
2/23-MIA	---	2.0	2	1	1	0	2	2/28-MIA	---	1.0	2	1	1	0	0				
2/28-MIA	W-1	2.1	3	1	1	1	2	3/5-PIT	W-1	1.0	0	0	0	0	1				
3/6-BAL	W-2	4.0	4	1	1	0	4												
GERSON MORENO (RHP)																			
DATE-OPP	DEC	IP	H	R	ER	BB	SO	DATE-OPP	DEC	IP	H	R	ER	BB	SO				
2/22-HOU	---	1.0	1	0	0	0	2	2/25-NYM	---	1.0	0	0	0	0	1				
2/26-HOU	---	1.0	0	0	0	0	3	3/2-MIA	---	2.0	1	0	0	0	1				
3/4-NIC	---	0.2	0	0	0	0	1												
3/8-MIA	---	1.0	0	0	0	1	1												

# DAILY BATTING LOGS

Player	2/21	2/22	2/23	2/24	2/25	2/26	2/27	2/28	3/1	3/2	3/4	3/5	3/6	3/7	3/8	3/9	3/10	3/11	3/12	3/13	3/14	3/15	3/17	3/18	3/19	3/20	3/21	3/22	3/23
Báez	ok		o1		kko		o1	kk1		o1w	o11	w	4w	4oo															
Burleson	wo		wok			ow4		1wk		ooo		kow		111															
Church	4o		kk		hoo		k2		dwo		wko		oww1		ook														
C.Davis		k		k	1o1		2k	oo	kd		kkk	o		kkk	ko														
Fermin	o2		1e		oo1		ko1		wek	oow		oek	ock		woo														
Gorman	o1		ko		o4o		ooo		wo	co		k4d		doo															
Herrera						od			oo		11		o1																
B.Jordan	ko	kow		ko	cow		ko		k	o	ooo	ok	k1kw		ko														
Koperniak	ko		wk			k		o1																					
Linárez					o					h																			
Mendoza	ok	1k		1k	ko		h1	c		2k		k	o	1	oo														
B.Moore	ko			o	ko		c	o1o	k	oo	ooo	o	od		1														
Nootbaar																													
Pagés	wo			kk			ok			oo		ok1		oo	2o														
Pozo		o2w		wwv		o4d			o1o	1o					o1o														
Rivas	oo		12	1		k	k		ko	f	wkk	oo	o11w		oo														
Saggese		o1k		owo		1ow	o2																						
Scott II		kbo		obk		1oo		k1k		k		owo		ook															
Urías							ok		kk			wow																	
Velázquez		c1w		owo	ko2		ooo			o1o	dko		o14o		ow														
Walker		1ew		ock		koo		d11	ok			k1o	koo																
Wetherholt	cw		ww		owo		o4k	w11		wok		1wk		koo															
Winn	ko		odk			wow		11w				oow		ook															
Yerzy		1o		o		o			ok		o4			o1															

Key: 1-Single, 2-Double, 3-Triple, 4-Home Run, o-Out, k-Strikeout, w-Walk, h-HBP, e-Reached on error, b-SacBunt, f-SacFly, c-Fielder's Choice, d-double play; Note: Read left-to-right for first-to-last AB.