This pdf contains everything needed to play Pine Tar Baseball except the dice. You may print out anything in this manual for personal use only. Redistribution of either this pdf or the material contained within in any format is prohibited. Pine Tar Baseball is copyrighted 2015 by Life is Sport Games.

This file contains the main manual, optional rules manual, game tables, score sheet, and two teams from the 2014 season. The teams in this demo each have 23 players. When ordering seasons for Pine Tar, each team will have 1 extra sheet containing 4 more players. This brings the roster per team to 27.

For any inquiries into the game contact James Formo at ttlgames@yahoo.com

Additional seasons for Pine Tar and the printed version of the game are available at
http://ttlbaseballgame.com/

Pine Tar

Main Rules

Pine Tar Baseball

Game Rules Manual

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Introduction to Pine Tar Baseball

Pine Tar baseball is intended to be a game that can be played in an average of 25 minutes while still giving reliable sabermetric results. Game play is very simple and lends to a short learning curve. A single die roll determines the play resolution 95% of the time when the bases are empty. From this single roll, both hit location and base runner advancement are determined. This is what makes game play so easy and fun!

Game Components Checklist:

- ❖ **3 ten sided dice (one each of red, white, & blue) and 1 six sided die.**
- ❖ **3 game pawns, 1 disk marker and dice pouch.**
- ❖ **6 blank score sheets and 2 scoring pencils.**
- ❖ **Player sheets for 4 different teams.**
- ❖ **1 game mat.**
- ❖ **1 main instruction manual and an optional rules manual.**
- ❖ **1 card stock sheet of game tables printed front and back.**

Player Cards

Each modern team roster has three, 8 and 1/2" x 11" sheets containing a total of 23 player stats. The sheet titled 'starters' contains nine position players that corresponds to lineup 1 for that team. All players listed on the sheet titled 'bullpen' are pitchers. These are divided into starters, relievers and one closer. The player sheet with no title and two lineups shown in the right column are additional players. Certain seasons have 'extra player' sheets available for purchase separately. It should be noted that 'extra player' sheets for vintage seasons are not available because of smaller roster sizes.

Pitching Cards

The bullpen sheet will always contain at least 4 starting pitchers, and usually has 5. The starters are always shown first. The relievers are shown next followed by the closer. Some teams will have dual role pitchers that can be used as both a starter or reliever.

Starters are easily identified by the (S) listed just to the right of their position title of 'Pitcher'. Relief pitchers will have an (R) just to the right of their position title. The closer will have a (C) instead. Closers are a specialized reliever that finishes games. Most of a pitcher's ratings are located in the 4 rows at the top of his stat 'card'. Refer to Liriano's stats (shown in figure A) to see how rows 1 through 4 are laid out.

Row 1- The top row shows which side the pitcher bats from. The far right of row 1 will show which side the player throws from.

**Row 2-** This row gives BR, SBC, SBO, and SHC values.

Row 3- This row gives the injury rating and shows the players name.

Row 4- This row shows the pitchers role by letter S, R, or C. Since Liriano is a starter, an (S) is displayed here. Defensive range (RG) and error chance (EC) are shown next. The higher the EC value, the greater opportunity that the player will be charged with an error.

Below the top 4 rows and to the left are the pitching grades. Each pitcher has a separate grade for when he pitches either at home or away. Starters are unique in that they have another split type. This 2nd split type is for when he faces the batting order for the 3rd time. The 3rd time through the order split is the grade following the /. So for Liriano, when he starts an away game his grade is A/B. This means that the first two times through the batting order his grade is A. Then when he faces the batting order for the 3rd time, his grade becomes a B. His grade remains as a B if he faces the batting order a 4th or 5th time.

Note: Some pitchers may be used as both a starter or a reliever. The grade split for the 3rd time through the order doesn't apply when that pitcher is used in a relief situation.

Figure A: Example of Liriano's starting pitcher stats.
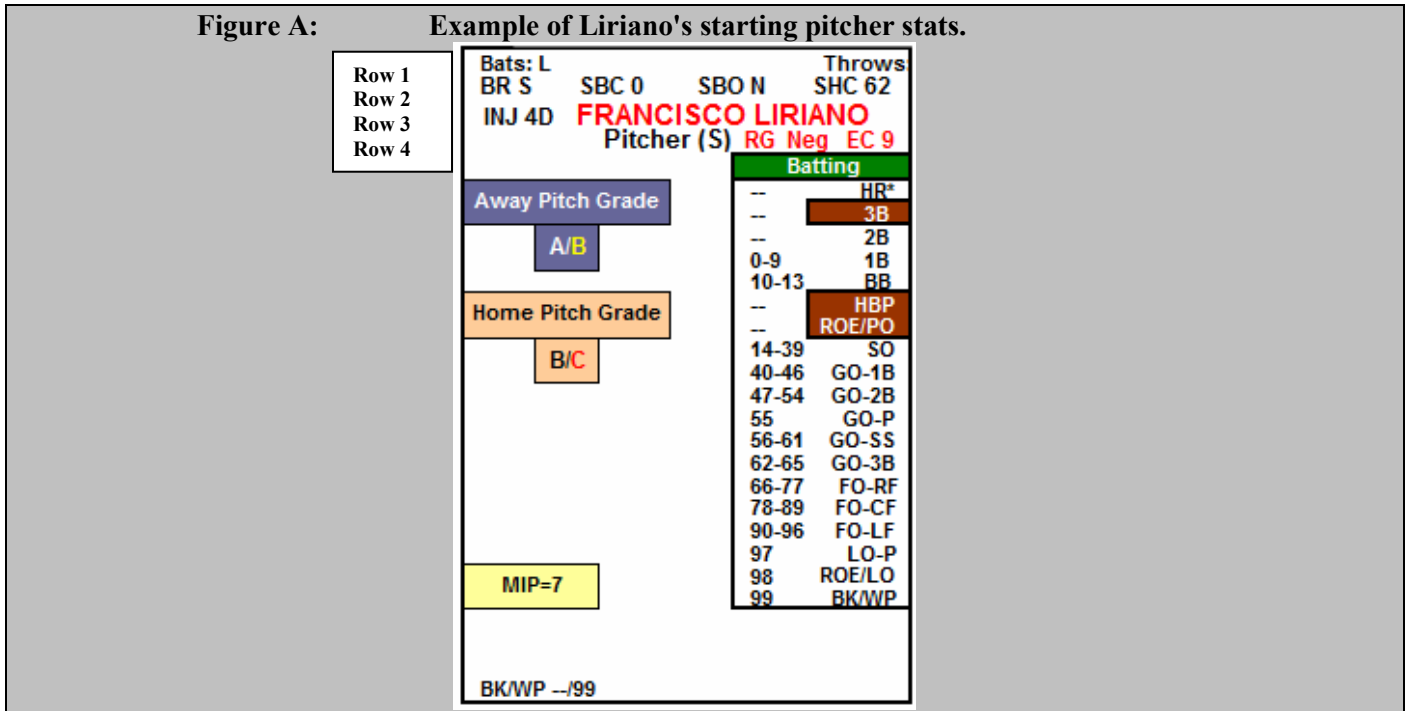
Batting Outcomes for Pitchers

The batting outcomes are located in the far right column of a pitcher's card. Batting outcomes are handled the same way for pitchers as they are for position players with one major difference. Pitchers use the same hitting column regardless of what side the pitcher they face throws from. This differs from position players which use 3 separate hitting outcome columns depending on the situation.

Pitcher Card Abbreviations

Abbreviation	Long Form	Represents
BR	Base running	Running modifier
SBC	Stolen base chance	Chance of a successful steal
SBO	Stolen base opportunity	How often a runner may attempt a stolen base
SHC	Sacrifice hit chance	Chance for a successful sacrifice
INJ	Injury	Players injury rating
Pitcher (S)	Starter	Starting Pitcher
Pitcher (R)	Reliever	Relief Pitcher
Pitcher (C)	Closer	Closing Pitcher
RG	Defensive Range	Can be either positive, negative, or neutral
EC	Error Chance	Used to see if an error is made on special plays
BK/WP	Balk/Wild Pitch ratings	Determines when a balk or WP occurs

Position Player Cards

The top portion of a position player card (see Marte's stats in figure B) contains much the same data as a pitcher's card does. There is one additional row at the top of the stats that allows the players first and last name to be in separate rows. The only new rating for a position player is for arm strength (Arm). Outfielders will have an Arm value listed at the start of row 3. Catchers will have AR in place of arm, followed by either a positive or negative value. Players that are exclusive to infield positions do not have an arm rating.

Row 5 will show all the positions that the player may field. These are given in the order from most played to least played for that given year. Just below row 5 are three separate columns that make up the Hitting Outcome Table. This table is referred to when a player bats. The columns are titled; 'vs RHP', 'RISP', and 'vs LHP'.

Figure B: Marte's position player stats

Row 1	Bats: R Grade B42 Throws:
Row 2	BR F SBC 72 SBO B SHC 49
Row 3	Arm A Starling RG Neg EC 8
Row 4	INJ 33C MARTE
Row 5	Leftfielder-CF

vs RHP		RISP		vs LHP	
0-2	HR*	0-1	HR*		0
3	3B	2-3	3B		1
4-8	2B	4-9	2B		2-7
9-25	1B	10-21	1B		8-27
26-31	BB	22-26	BB		28-33
32-34	HBP	27-29	HBP		34
35-37	ROE/PO	30	ROE/PO		35-37
38-60	SO	31-54	SO		38-66
61-62	GO-1B	55-57	GO-1B		67-68
63-66	GO-2B	58-61	GO-2B		69-72
67	GO-P	62	GO-P		73
68-72	GO-SS	63-68	GO-SS		74-78
73-77	GO-3B	69-73	GO-3B		79-81
78-80	FO-RF	74-77	FO-RF		82-84
81-89	FO-CF	78-87	FO-CF		85-91
90-96	FO-LF	88-96	FO-LF		92-96
97	LO-3B	97	LO-SS		97
98	ROE/LO	98	ROE/LO		98
99	BK/WP	99	BK/WP		99

Beginning a Game

A batter roll is performed at the beginning of each players at bat. The batting roll uses 2 ten sided dice. The red die is read first, then the white die is read last giving a result from 0 to 99. Find the outcome for the die result in the proper batting column. Use a hitters **'vs RHP'** column when he is facing a right handed pitcher. When a batter is facing a left handed pitcher, use his **'vs LHP'** column. Finally, when there are runners in scoring position (either on 2nd or 3rd base), use the hitters **RISP** column to determine the results of the at bat.

The result from this same die roll is also used to find a hits location and determine any potential base runner advancement. There are only 3 batter outcomes that may require an additional roll when the bases are empty. These are ROE/PO, ROE/LO, and BK/WP. Reach on error batting outcomes will be covered later. All the batter outcomes are obvious. Hits are 1B through HR, BB is a walk, SO is a strike out. GO, FO, and LO refer to ground outs, fly outs, and line outs. These all list the fielder the play goes to.

Balks and wild pitches are unique plays in baseball. Each pitcher has a **BK/WP** rating at the bottom left corner of his card. For demonstration purposes, lets use a pitcher who has a BK/WP rating of 21/99. The / separates the BK value from the WP one. So 21 is the top value of this pitchers BK range, while 99 is the top value of his WP range. The WP range starts where the BK range ended. Since the BK range is 0-21, the WP range would then be, 22-99. Handling balks and wild pitches varies depending on whether the bases are empty, or if there are runners on. Each situation is covered below.

BK/WP's with bases empty: There can be no balks or wild pitches when the bases are empty. For this reason, whenever a batting outcome is BK/WP and no runners are on, the outcome is changed to 'ball 1'. Then a new batter roll is performed for the same hitter.

BK/WP's with runners on: When the batting roll outcome is BK/WP with runners on, a new 2 die roll is performed. This is a standard 2 die (red/white) roll. There are two exceptions where a new roll is not needed. If the pitcher has a BK/WP **--/--** rating. That would indicate that the pitcher never made a balk or wild pitch during the season. If a pitcher is rated as BK/WP --/--, the outcome is 'ball 1' and a new batter roll is performed. The other time a roll is not required is if the pitcher has a --/99 rating. Since this pitcher issued no balks and has the maximum value of 99 under wild pitches, any BK/WP batter outcome would automatically become a wild pitch. When a WP occurs, all base runners advance one base and the batter has a ball 1 count. Then a new batter roll is performed for the same at bat.

Special Rules for Walks

For A+, A, and B graded pitchers, a BB (walk) is only recorded when 1st base is open. Anytime 1st base is occupied, a BB result for the pitcher grades previously listed is changed to 'ball 2'. Then another batter roll is performed for the same batter. A walk may still occur in the same at bat if another BB result occurs while a batter already has a count of 2 balls.

For C, D, E, and G grade pitchers, a BB is always recorded as a walk regardless of whether or not 1st base is open.

Note: Any pitching modifiers are always applied first before changing a BB result into a ball 2 outcome. This is because a BB could be modified into a 1B or SO based on the pitchers grade. Please refer to the pitcher modifiers section on page 9.

Game Walk Through

This section will show a brief walk through of a half inning to give an idea of game play. All aspects of play resolution are explained in detail in the sections that follow the walk through. Refer to the player stats for Marte (pg 3), McCutchen (pg5), and Sanchez for the walk through. To save space, other players at bats will just be described but their stats are not shown here. The two teams are Pittsburg and St. Louis. St. Louis is the home team and has a right handed grade C pitcher on the mound.

Top of the 1st

McCutchen leads off for Pittsburg and the batting outcome roll is red 1 and white 4. The result is a single to right field. The location of the hit is found from referencing the die result of 14 on the hit location table. Sanchez now bats and the batting roll is red 1 and white 6. The value of 16 falls within Sanchez's **'vs RHP'** range of 7-17, which results in another single. This time to left field. Since the batter roll die result is an even number and McCutchen is a medium base runner, McCutchen advances one extra base and winds up on 3rd.

There are now runners on 1st (Sanchez) and 3rd (McCutchen) with no one out. Marte steps to the plate and the batter roll result is 76. Marte's **'vs RISP'** column is used since there is a runner in scoring position. The die result of 76 falls within Marte's 74-77 range which indicates FO-RF. A tag roll is performed to see if McCutchen is able to tag from 3rd on the fly out to right field. This 2 die roll results in a 61. Since 61 is less than the 65 value shown in the fly out table for RF (with a runner on 3rd base), McCutchen does indeed tag from 3rd. Marte is credited with a sacrifice fly.

McCUTCHEN — Centerfielder

Bats: R   Grade A48   Throws:
BR M   SBC 85   SBO C   SHC 59
Arm W   Andrew RG Neg EC 6
INJ 31B

vs RHP		RISP	vs LHP	
0-3	HR*	0-2	HR*	0-5
4	3B	3	3B	6
5-11	2B	4-6	2B	7-9
12-26	1B	7-22	1B	10-22
27-39	BB	23-41	BB	23-36
40	HBP	42-43	HBP	37-38
41	ROE/PO	--	ROE/PO	39-40
42-60	SO	44-62	SO	41-54
61-62	GO-1B	63	GO-1B	55-57
63-66	GO-2B	64-66	GO-2B	58-61
67	GO-P	67	GO-P	62
68-72	GO-SS	68-72	GO-SS	63-68
73-77	GO-3B	73-77	GO-3B	69-73
78-80	FO-RF	78-80	FO-RF	74-77
81-89	FO-CF	81-89	FO-CF	78-87
90-96	FO-LF	90-96	FO-LF	88-96
97	LO-3B	97	LO-SS	97
98	ROE/LO	98	ROE/LO	98
99	BK/WP	99	BK/WP	99

SANCHEZ — Firstbaseman-RF

Bats: R   Grade D31   Throws:
BR S   SBC 89   SBO D   SHC 41
Arm A   Gaby RG Neu EC 5
INJ 48C

vs RHP		RISP	vs LHP	
0-3	HR*	--	HR*	0-1
--	3B	0	3B	--
4-6	2B	1-8	2B	2-10
7-17	1B	9-18	1B	11-22
18-24	BB	19-24	BB	23-30
25	HBP	25	HBP	31
26-27	ROE/PO	--	ROE/PO	--
28-53	SO	26-43	SO	32-46
54-57	GO-1B	44-47	GO-1B	47-48
58-61	GO-2B	48-52	GO-2B	49-52
62	GO-P	53	GO-P	53
63-68	GO-SS	54-60	GO-SS	54-60
69-73	GO-3B	61-66	GO-3B	61-66
74-77	FO-RF	67-72	FO-RF	67-72
78-87	FO-CF	73-84	FO-CF	73-84
88-96	FO-LF	85-96	FO-LF	85-96
97	LO-3B	97	LO-SS	97
98	ROE/LO	98	ROE/LO	98
99	BK/WP	99	BK/WP	99

There is now 1 out with one runner in and Sanchez still at first base. Martin steps to the plate and his batting outcome roll results in a GO-SS on a die roll of 65. Because there is a runner on 1st base the **'GO Table w/runner on 1st'** is used to determine the ground out. The value from the white die (5) is referenced under the GO-SS row of this table. Five falls under the **FC R3H** column of the ground out table. This means that Sanchez is forced out at 2nd base and Martin reaches safely on a fielders choice. The abbreviation R3H after the / in the GO table only applies when a runner is also on 3rd base at the start of the play.

There are now 2 outs with Martin at 1st base. The next batter is Mercer. The batting outcome results in a 1B on a roll of 20. Since 20 is one of the rolls that requires the pitching modifier to be applied, the opposing pitchers grade is noted. He is a grade C which according to the **'Pitcher Modifier Table'** changes the result from 1B to 2B. The original die roll of 20 determines that the double goes to center field. Martin, who was on 1st base and is a medium runner, is able to advance an extra base because of the even die result of 20. Since the standard advancement on a double is 2 bases, adding an additional base to his advance allows him to score all the way from 1st an Mercer's double.

There are still 2 outs with 2 runners in and Mercer at second base. The next batter is Polanco who strikes out on a batter outcome die result of 34. This ends the top of the first with 2 runs scored.

Hit Location

The batter roll not only determines the play outcome, but it is also used to find the hit location by referring to the **'Hit Location'** table. (see table on next page) It is as simple as finding the die value in the roll column of the table and reading across to see the field that corresponds to that value. In the majority of cases, the hit will go to either right field, left field, or center field. On hits that occur on a batter roll of 19, the hit is an infield hit (except if the batter is a slow (S) runner), in which case it turns into a GO-SS outcome instead. If you play using the optional defensive rolls, a positive defensive roll is performed on batter rolls of 11 and 22. Whenever a defensive roll takes place, the defensive table is used in place of the hit location table to find which field the hit goes to. Refer to the 'Optional Rules Manual' for details on defensive rolls.

Hit Location Table

Hit Location	
Roll	**Loc**
0-1	CF
2	RF
3-6	LF
7-10	CF
11-15	RF
16-18	LF
19	IH*
20-25	CF
26-27	RF
28-29	LF
30-50	CF

*S runner = GO-SS

Base Advancement

There are 3 separate situations when base runners may advance. These are on base hits, ground outs, and fly outs. A separate roll on base hits is <u>not</u> needed to determine base runner advancement. Simply refer to the die result from the batter roll. When it is odd, any base runners that are slow or medium advance the same number of bases as the hit type. IE. Runners advance one base on a single, and two bases on a double. Fast runners always advance one more base than the hit type on both odd and even batter roll results. This means that Fast runners advance 2 bases on a single and 3 bases on a double.

Base Advancement Table	
Roll Type	**Runner/Bases**
Odd BODR	S/1, M/1, F/2
Doubled Die Roll	All/1
Even BODR	S/1, M/2, F/2

When the batter die result is even, slow runners advance the same number of bases as the hit type, while both medium and fast runners advance one more base than the hit type. Base runner speed is located to the right of the players BR section. S will signify a slow runner, F signifies fast, while the letter M is assigned to a medium speed base runner.

Note that on the **'Base Advancement Table',** either a 1 or a 2 will appear to the right of the players speed rating of S, M, or F. The 1 indicates that the runner advances the same number of bases as the batters hit type. The number 2 following the base runners speed type, indicates that the runner advances one more base than the batters hit type. The only exception to the even/odd base advancement rule is on doubled die rolls. Whenever a hit occurs on a doubled die roll, **all** runners may only advance the same number of bases as the hit type.

Ground Outs With Runners On

When the bases are empty or with runners on when there are 2 outs, a ground out is simply recorded as it appears in the batters outcome table. When a runner is on base (and there are less than 2 outs) when a batter hits a ground out, one of the two ground out tables are used to resolve the play. This will determine base runner advancement and any potential double play outcomes.

If a runner is on 1st base refer to the **'w/runner on 1st'** GO table. If there is no runner on 1st base, then refer to the **'no runner on 1st'** GO table. To use either table, read across from the correct GO type in the player column (farthest left on the chart) and locate which column the white die value from the batter roll falls into. Lets take an example where a runner is on 1st base and the batter outcome was GO-2B on a batter roll of 47. The white die

value of 7 would fall into the 5-8 range of the FC R3A column across from the GO-2B row on the 'GO w/runner on 1st' table.

'Go w/runner on 1st' table- There are 4 possible ground out results for this table. These are Ground into Double Play (GDP), Fielders Choice - runner on 3rd holds (FC R3H), Fielders Choice - runner on 3rd advances (FC R3A), and Put Out (PO – 3). Each outcome will be explained within its own section.

Player	GDP	FC R3H	FC R3A	PO-3 RA
GO-1B	0-2	----	3-7	8-9
GO-2B	0-3	4	5-8	9
GO-P	0-6	7	----	8-9
GO-3B	0-2	3-5	6-7	8-9
GO-SS	0-3	4-6	7	8-9

GO Table w/runner on 1st — add 4 to white die (max value is 9) on H & R plays

GDP Outcomes - using the 'w/runner on 1st' table

Since the **'Go w/runner on 1st' table** applies to multiple base running situations, the ground out result needs to be interpreted to apply to the current situation. GDP's are only possible when a runner may be forced out at 2nd base. In other words, a runner needs to occupy first base at the start of the play. The other requirement for a GDP is that there are less than 2 outs. If both of these conditions are met, and the white die value from the batter roll falls into the GDP column, then a double play occurs. The runner that was on 1st is forced at second, and the batter is doubled off at first base. Note that any other runner that started the play on 2nd or 3rd would advance 1 base while the GDP is completed. However, if the GDP results in the 3rd and final out of the inning, no player advancement is possible.

❖ In the 8th inning or later, the player controlling the defensive team has the option to refuse the GDP opportunity when there are 0 outs and a runner scoring from 3rd would either tie the game, or extend the lead of the offensive team. In this case, only 1 out is recorded on the play, but it is the runner on 3rd who is out at home, with the batter reaching first on a fielders choice.

Fielders Choice Outcomes

Similar to GDP outcomes, a FC outcome may only occur when a runner is on 1st base at the start of the play. When this is the case, the runner on 1st is forced out at second base, with the batter reaching 1st on a fielders choice. Any runner that started on 2nd base would **always** advance to 3rd base on all FC plays.

After the ranges shown for FC's appears either R3H or R3A. These stand for Runner on 3rd Holds and Runner on 3rd advances. These only apply when a runner is on 3rd base at the start of the play. They show whether or not the runner that was on 3rd would either advance and score, or remain at 3rd base during the fielders choice.

In addition, R3H only applies when there is not a force play at home plate. This is because if the bases are loaded, the runner on 3rd does not have a choice to hold. For this reason, on all FC plays with the bases loaded, the runner on 3rd would automatically advance and score provided that the fielders choice did not make the 3rd and final out of the inning.

PO-3 Outcomes

Put out-3 outcomes are recorded exactly as they appear on the players batting column results. ie. A GO-3B is exactly that, with the batter retired at 1st base. All 'PO-3' results are followed by RA (Runner Advances). This means that any and all base runners advance one base on the ground out.

Ground Out Outcomes – using the 'no runner on 1st' table

Ground outs with no runner on 1st are handled in the same way as above. The only two differences are that the **'no runner on 1st'** table is used instead and there are no GDP opportunities. There are two different PO-3 results. Both result in the batter being retired at 1st base. PO-3 RH requires any base runners to hold while PO-3 RA allows any runners to advance 1 base. LR Out is a type of fielders choice where the lead runner is out, no matter what base the lead runner occupied at the start of play.

GO Table no runner on 1st			
Player	LR Out	PO-3 RH	PO-3 RA
GO-1B	----	----	0-9
GO-2B	----	0	1-9
GO-P	0	1-8	9
GO-3B	0	1-6	7-9
GO-SS	0	1-5	6-9

Limits on Base Runner Advancement- It should be noted that in no instance will any base runner on 3rd be allowed to score when either a GDP, FC, or PO-3 results in the 3rd and final out of an inning.

Fly Outs with Runners On

Fly outs are one of the few plays that require a second roll, but only with less than 2 outs and a base runner either on 2nd or 3rd. In this case, the second roll is referred to as a tag roll. The red and white dice are used with the red die once again being read first.

When the fly out is to center field or right field, a tag roll is performed when a base runner is on 2nd or 3rd. For fly outs to left field, a tag roll is only required when a runner is on 3rd base.

Tag Table- used on fly outs with runners on 2nd or 3rd with less than 2 outs.

Fly Out/Tag Table				
LF	CF	CF	RF	RF
3rd base	2nd base	3rd base	2nd base	3rd base
70	25	70	45	65
Lead runner is out on rolls of 77, 88, & 99.				

Whenever the tag roll die result is less than or equal to the value listed under the outfield and base situation, the runner is allowed to tag. (advance one base) For example; If base runners were on both 2nd and 3rd base on a fly out to right field, and the tag roll die result was 49, the runner on 3rd would tag and score, while the runner on 2nd would not be allowed to tag. Anytime a 77, 88, or 99 are rolled, the lead runner attempting to tag would be thrown out. Because of the risk of being thrown out, the choice to attempt to tag is optional.

Sacrifice Bunts

The object of the standard sacrifice bunt is to move a runner over into better scoring position. Standard sacrifices can be put on when a runner is either on 1st or 2nd, or with runners on both 1st and second. Any sacrifice with a runner on 3rd base falls into the special play category of suicide squeeze play. Sacrifice attempts can only be put on when there are less than 2 outs.

Standard Sacrifice Play	
Use batter's base SHC value	
Roll	Result
Succeeds on even roll	SH 5-4
Succeeds on odd roll	SH 3-4
Succeeds with doubles	IH
Roll = batters SHC value	ROE-3
Fails on even roll	FC Lead R out, 1-6
Fails on odd roll	FC Lead R out, 3-6
Fails with doubles	Pop out, PODP 1-4

Sacrifice plays do not use the hitter's batting outcome columns. Instead a standard 2 die roll is performed and the batters SHC value is referred to using the sacrifice table for the outcome. The sacrifice succeeds if the die roll is less than the batter's SHC value. Refer to the outcomes listed below for clarification on all potential results shown within the sacrifice table. A batter with a rating of N for his SHC can not perform a sacrifice bunt of any kind. N in this case means never. There are 5 general outcomes possible for a standard sacrifice. These are listed below:

Outcome 1: SH (sacrifice hit) is recorded when the sacrifice attempt is successful. The base runner(s) advance one base, with the batter out at 1st. A sacrifice attempt succeeds when the roll is less than the batters SHC value. If a batter had an SHC of 89, rolls of 0-88 would be successful. On even successful rolls, the SH is scored as SH 5-4. On odd successful rolls, the SH is scored as SH 3-4. Successful sacrifices allow the base runner(s) to advance while the batter is retired at 1st base.

Outcome 2: The sacrifice attempt turns into an infield hit scored as I-Hit. This occurs on a successful roll that also has a doubled die result. For example, for a batter with a 89 SHC value, these rolls would include; 00, 11, 22, 33, 44, 55, 66, 77, and 88. In addition to the batter being safe on the I-hit, any base runner(s) advance one base.

Outcome 3: A throwing error is made on the play by the position player that fields the bunt. This only happens when the die roll result is equal to the SHC value for the batter. For example, If the batter's SHC was 89, an error would occur on a roll of 89. Which fielder is charged with the error is listed on the sacrifice tables. The batter and runner(s) only advance one base on this error.

Outcome 4: The sacrifice attempt fails and the lead runner is forced out. This happens when the die roll is higher than the batters SHC value. For example, if the batter has a SHC of 89, rolls of 90-99 would result in a failed sacrifice attempt. The scoring depends on whether the die roll was even or odd and is given under the result column of the sacrifice table. Any trailing runners would be allowed to advance one base. For example, if runners were on 1st and 2nd base and the sacrifice failed, the lead runner is out at 3rd base, while the trailing runner would advance to 2nd base. The batter is safe at 1st on the fielders choice.

Outcome 5: Lastly, on failed sacrifice attempts that also have a doubled die result, the outcome is a Pop Out Double Play (PODP). For example, if the batter has a SHC rating of 89, the only possible roll that would give this result would be a roll of 99. The lower a batters SHC value, the more opportunities for this result. The lead runner is always the runner doubled off when there is more than one base runner. The pitcher is always considered the fielder that makes the catch on a pop out. Suggested scoring is given for the PODP in the sacrifice tables. In situations with runners on first and second, the trailing runner would be safe and remain at first base, while the batter is out on the pop up.

Suicide Squeeze Plays- Suicide squeeze bunts have a unique table assigned to them. The main difference is that 25 is subtracted from the batters SHC value. This makes it harder to execute a suicide squeeze play.

Pitcher Grade Modifiers

Pitching grades are given as letter values that include; A+, A, B, C, D, E, and G. On batter roll die results of 0, 5, 10, 15, 20, 25, 30, 35, and 40, the 'Pitcher Modifier' table is referred to. To use this table, find the outcome from the batter roll on the bottom row of the table, just above the title **'Original Result'**. Then scroll up until you find the opposing pitchers letter grade. Once you locate the pitcher's letter grade, cross reference to the **'New Result'** outcome on the far left that is on the same row as the grade. For original results that list no A+ grade, simply use the A grade for that outcome. In a few instances for certain grade pitchers, a few batting outcomes remain unchanged by the table. The pitching modifier table is not used on batter roll die results that are **not** 0, 5, 10, 15, 20, 25, 30, 35 or 40. Any batting outcomes below SO (strike out) on a batters outcome table also are not modified. These include ground outs, fly outs, and line outs.

Example 1: The opposing pitcher is grade B. The batter outcome is 1B on a roll of 15. Locate the 1B outcome on the **original result** row. Scroll up until you find the B grade. The B grade is shown 5 rows up where the value A-B is listed. Now scan over to the left for the **new result.** The new outcome becomes a BB. Note that special rules for walks (see page 4) still applies for pitcher grades of A+, A, and B.

Example 2: The opposing pitcher is grade A+. The batter outcome is a triple on a roll of 5. Using the method described above, the triple turns into a 1B instead.

Pitcher Modifier Table
Original result on the bottom gets converted to new result on far left

	New Result	HR	3B	2B	1B	BB	HBP	ROE	SO
N	SO				A+	A	A-B		A-C
e	ROE							A-D	
w	HBP						C-E		
	BB			A+	A-B	B			D
R	1B	A	A+	A-B		C-D	G	E-G	E-G
e	2B	B			C-E	E-G			
s	3B		A-E						
u	HR	C-G	G	C-G	G				
l		HR	3B	2B	1B	BB	HBP	ROE	SO
t		O r i g i n a l R e s u l t							

Example 3: The opposing pitcher is grade C. The batter outcome is a HR on a roll of 0. Using the method described above, the HR remains unchanged.

Example 4: The opposing pitcher is grade G. The batter outcome is a 2B on a roll of 10. Using the method described above, the 2B is changed instead into a HR.

Pitcher Fatigue System

The limit on number of innings that any given pitcher may pitch during one game is referred to as Maximum Innings Pitched. (MIP) This inning limitation is found on a pitchers card just below his grade splits. For an example; refer to Liriano's card on page 2. His MIP of 7 is shown in a shaded yellow box. For dual role pitchers, their card will give 2 values for MIP like this; 5/2*. The first value would be their MIP when they pitch as a starter. The second value after the dash and with an asterisk, would be their MIP when they enter the game in relief.

Maximum innings pitched represents when a pitchers arm fatigue level is reached. Modern managers protect pitchers arms by limiting pitch counts which is represented by innings for simplicities sake. Make a notation on the opposing teams score card above the inning that corresponds to the pitchers MIP limit.

One Extra Inning Pitcher Bonus - For Starters Only

Starting pitchers can potentially pitch one inning over their MIP limit. They qualify for one extra inning if, after reaching their last inning, they have only allowed two runs or less. Unearned runs count towards this two run cut off. The +1 MIP bonus can only be applied one time.

Error Determination Rolls on ROE/PO and ROE/LO Outcomes

Refer to figure C below. Whenever a ROE/PO or ROE/LO is the outcome of a batter roll, an **'Error Check Roll'** is performed. The results of the error check can be either an error, a PO, (pop up) or a LO (line out). The error check is a 3 die roll.

The red/white combo is read separately. (red die first) Then the blue die is read individually. The value from the red/white combo determines which fielder the play goes to. The fielder is found by using the die range listed under the roll column of the **'Error Results'** table, then reading across to the corresponding position shown in the POS (position) column. ie. If the red/white combo was 68, find the fielder in the POS column just to the right of the 67-76 range. In this instance, the play would go to the SS. (shortstop)

Error Check Portion - Once the fielder is determined, the blue die is compared to the fielders EC value to see if he commits an error on the play. If the blue die is equal to, or less than the players EC value, an error occurs on the play. Once an error occurs, how many bases the batter takes on the error is found by reading across from the roll range to the RS (result) column. Values listed in the RS column are either 1* or 2. The RS value gives the number of bases the batter advances on the error. The * means that when there are 2 outs, all base runners advance 1 more base than the displayed RS value. This one base bonus does not apply to the batter. With one out for the range of 67-76, the batter would advance 1 base and any base runners would also advance 1 base. If there had been 2 outs, the batter would still advance 1 base, while any base runner(s) would advance 2 bases.

Figure C: Error Results Table

Red/white combo determines fielder.
Blue die tells if its an error, LO or PO

Roll	Pos	RS
0-10	P	1*
11	1B	2
12-21	1B	1*
22	1B	2
23-25	1B	1*
26-32	2B	1*
33	2B	2
34-41	2B	1*
42-43	3B	1*
44	3B	2
45-54	3B	1*
55	3B	2
56-65	SS	1*
66	SS	2
67-76	SS	1*
77	LF	2
78-83	LF	1*
84-87	CF	1*
88	CF	2
89-92	CF	1*
93-98	RF	1*
99	RF	2

*runners adv 2 bases when there are 2 outs

If the blue die is higher than the players EC value, then no error occurs on the play. If this is the case the play is simply recorded as a pop out for original batting outcomes of ROE/PO, or a line out if the batting outcome had been ROE/LO. As it happens, any player that has an EC 9 rating will always make an error.

Pine Tar Optional Rules
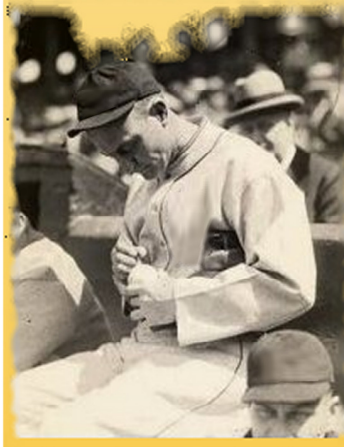
Pine Tar Baseball
Optional Rules Manual
A dice simulation game ~ copyright 2015 by Life is Sports Games

This manual contains supplemental rules. It is recommend to play several games just using the main rules before adding in any of these optional rules. On the game charts, tables that apply to optional rules will have a blue header, while tables for 'required' rules have a brown header.

Base Stealing

Limits are placed on players so that they may only make so many attempts per series and only during certain points in the game. This is to make their steal attempts more true to life. Every player in game is rated with a letter grade for his SBO (stolen base opportunity). Those rated as N may never attempt to steal. Players rated A through E may steal but are subject to the limitations given within the **'Steal Opportunity Table'**. This table shows the players SBO grade, followed by the stolen base points it costs for him to attempt to steal. Each team has a maximum of 4 steal points per 9 inning game. Once those points are used, no more steal attempts may be made by that team for the remainder of the current game. Stolen Base points may be tracked on the scorecard by crossing off points as they are used. If the game goes into extra innings, each team is awarded 2 additional steal points. In this way, the most steals a team could attempt in a 9 inning game would be 4, provided they were all rated with grade A SBO's. Even then, it would have to be with at least 2 different players, as a grade A base stealer may only attempt 2 steals per series. These can be used within the same game.

Steal Opportunity Table			
Grade	SB Pts	Opportunity	H & R
A	1	Any time - twice per series	Yes
B	2	Any time - once per series	Yes
C	2	6th inn or later - once per series	Yes
D	3	7th inn or later - once per series	Yes
E	3	8th inn or later - 1 every other series	No
N	NA	Never	No

In the middle of the **'Steal Opportunity Table'** is given the limits as to when and how often a player may attempt a stolen base. To the far right of the table is a column titled 'H & R'. This shows, either by yes or no, whether or not that particular steal grade may participate as a base runner in a hit and run play. Notice that both E and N grades may not have a hit and run put on for them. When these players bat, the hit and run play may be put on. Its only when they are on the base paths that this H & R restriction applies.

Resolving a Steal Attempt

Once the player/manager decides to attempt to steal a base, its simply a matter of performing a standard 2 die roll and comparing the die result with the players adjusted SBC (stolen base chance) value. The adjusted SBC of a player is found by taken his actual SBC value and adding the opposing catchers AR value to it. Adding a minus AR is the same as subtraction. Note that catchers with the strongest arms have minus AR values as they reduce the chance the runner has of a successful steal. If the 2 die roll is less than or equal to the adjusted SBC, that runner steals the base. If the die roll is higher than the adjusted SBC, the runner is thrown out at the base he was attempting to steal. Only 2nd or 3rd base may be stolen.

Example: The opposing catcher has an AR of -9. The base runner on 1st has a SBC of 82. Adding -9 AR to the runners 82 SBC results in an adjusted SBC of 73. A 2 die roll is performed with the result of 70. Since 70 is lower than the adjusted SBC of 73, the runner successfully steals 2nd base.

❖ On steal attempts of 3rd base, subtract 5 from the runners base SBC. In the example above, if the runner was attempting a steal of 3rd, his final adjusted SBC would have been 68.

Positive Defensive Rolls

Defensive Rolls are optional. If the player/manager chooses to use them, both positive and negative rolls should then be used. This is to ensure that just as many hits are taken away as are added over the course of a season. This section will describe how to implement positive defensive rolls.

Any time a single, double, or triple occurs on a batter roll die result of either 11 or 22, the **'Positive Defensive Roll' (PDR)** table is needed in order to see which fielder the ball is hit towards. First perform a new standard 2 die roll. Find which range the result from this roll falls into on the **'roll'** column of the **'Positive Defensive Roll'** table. Then find the corresponding fielder for the same row in the **'fielder'** column. This is the defensive player that the check applies to.

This fielder check acts like an on off switch. If the fielder being checked has Pos RG, then the original hit is changed to the result displayed under the **Pos** (positive) column of the table. The new possible results will either be GO or FO. When the result is changed to a ground out or fly out while runners are on base (with less than 2 outs), the GO or FO is resolved as it normally would be. For ground outs, the white die from the original batter roll of either 11 or 22 is used on the appropriate ground out table. For fly outs with runners on 2nd or 3rd base, a new tag roll would be performed.

When the fielder being checked has either Neu RG or Neg RG, he is considered to have failed the positive defense roll and is unable to make a play on the ball. In this case, the original hit from the batter roll stands and the location of the hit is found under the **Neg/Neu** column of the **PDR** table. Pitchers that fail a positive defensive roll have the hit changed to an infield hit regardless of what the original type of hit would have been.

Positive Defensive Roll Table			
Hits on rolls of 11 & 22		**Pos**	**Neg/Neu**
Roll	**Fielder**	**Result**	**Hit-Loc**
0-10	1B	GO	RF
11-22	RF	FO	RF
23-36	2B	GO	CF
37-51	CF	FO	CF
52-54	P	GO	I-Hit
55-70	SS	GO	CF
71-84	LF	FO	LF
85-99	3B	GO	LF
The white die # from the original 11 or 22 roll is used for base advancment on hits			

Example 1: A batter roll of 11 gives the result of 2B (double) off the players hitting column. The positive defensive roll is 36. Looking under the roll column of the **PDR** table, 36 falls within the range of 23-36. This indicates the second baseman (2B). The opposing second baseman has a Pos RG rating. Therefore, the new result under the **Pos** (positive) column of the table for a second baseman is GO. If any runner(s) were on base with less than 2 outs, the white die value of 1 from the original batter roll of 11 is used to resolve the ground out.

Example 2: A batter roll of 11 results in a 1B (single). The positive defensive roll is 49. This indicates the center fielder (CF). The opposing center fielder has a Neu RG rating. So the single will stand and the hit location of CF is shown under the **Neg/Neu** column of the table. If any base runner(s) were on base, the odd die value of the original 11 would be used to resolve base runner advancement.

Negative Defensive Checks

Negative defensive checks do not require an additional roll. Instead, whenever the batter roll is either 66 or 88, the fielder given in the batter outcome is simply checked to see if he has a Neg RG rating. If he does, the original GO

or FO is changed to a 1B (single) result. When the defensive player in question has either a Pos RG or a Neu RG rating there is no change to the original batter outcome. The negative defensive check does not apply on batter outcomes of SO. So if a 66 or 88 batter roll were to result in a SO on a players batting column, no check is performed.

When a ground out is changed into a 1B result, it is considered as an infield hit. If a fly out is changed into a 1B result, it is considered as a hit to the outfield that the original FO was listed as. In both cases, any base runner(s) may only advance 1 base on a hit that was either a GO or FO before it was altered by a Neg RG rated defensive player. Refer to the '**Negative Defensive**' table below.

Negative Defensive Table			
GO's or FO's on rolls of 66 & 88			
Batter Roll	Fielder Position	Result	
		Pos/Neu	Neg
66	All	No Change	Hit
88	All	No Change	Hit
Any base runners may only advance 1 base on hits fron negative range checks			

Hit and Run Plays

The player/manager controlling the offensive team can put on a Hit and Run play. This may be done any time there are less than 2 outs and there is either a runner on 1st, runners on 1st and second, or runners on 1st and 3rd. When a pitcher is on base, he can not participate in the Hit and Run. Managers don't put pitchers at risk of injury on the base paths. A hit and run could still be put on if a pitcher was on 1st base, and an additional runner was on 2nd, but only the runner on second would get any of the bonus modifiers associated with the Hit and Run. Hit and runs may also not be put on for a runner that has either an E or N SBO (stolen base opportunity) rating.

H & R Modifiers
+5 to batters roll (ignore this if pitcher mod is applied)
+4 to white die on all ground out rolls (maximum value is 9)
100% chance the base runner takes an extra base on a hit

It should be noted that any time a H & R is put on and the batter strikes out, the play turns into an attempted steal. In this instance, resolve the steal just the same as you would if it had been a straight steal attempt. All the effects of putting a Hit and Run on are listed in the '**H & R Modifiers**' table shown above. The batter roll modifier of +5 is only added on rolls from 0-90. This is to prevent too many batter rolls being converted to ROE/LO's or BK/WP's. In addition, any roll that requires use of the '**Pitcher Modifier**' table, also does not have the +5 H & R modifier applied. This is because pitcher modifiers supersede the H & R batter roll modifier. The +4 to white die modifier is only applied when the ground out table is used.

Advantages and Disadvantages of Hit and Runs: Hit and Runs have both risks and rewards. They are put on to try to stay out of a double play, and to increase the chance of runners advancing an extra base on base hits. The risks are having a batter strike out and the runner getting caught stealing, for a strike out/throw out double play. It also takes some slugging potential away from the batter, as he is forced to swing at a pitch regardless of location.

Limits on using H & R's: Hit and Runs are limited to 2 uses per game/per team. You may track these uses on the scorecard by crossing off one of the hit and run values after each use.

Additional Pitcher MIP Modifiers

Additional MIP modifiers may be used based on the player/managers preference. A quick reference table is shown below.

MIP Modifiers	
Condition	**Penalty/Bonus**
Starter allows 5 or more runs	-1 to MIP, -1 grade level
Starter allows 2 or less runs	+1 to MIP
Starter allows 8 or more runs	Must be removed
Reliever allows 3 or more runs	Must be removed

The penalties and bonuses listed in the MIP table are straight forward. One other suggested bonus is to allow a starting pitcher who has pitched his maximum innings, and still has allowed 2 runs or less, to continuing pitching until a runner reaches base for any reason. With this last bonus, it would be possible for any starting pitcher to pitch a complete game. For example; say a starting pitcher has an MIP of 6. He pitches 6 innings and has only allowed 1 run. He then gets a +1 MIP bonus so he can pitch the 7th inning. He allows an additional run in the 7th but still has only allowed 2 runs total. The +1 MIP bonus may only be applied once, but he may still pitch in the 8th until he allows any type of base runner. As soon as a runner reaches, whether from a hit, error, walk, etc.... the starting pitcher must be removed. If this pitcher were to pitch a 1, 2, 3 eighth inning, he has the opportunity to pitch the 9th until he allows any base runner to reach.

Pitcher Grade penalty for RISP Situations

Lefty/Righty splits are already handled in game by the separate batter columns for those match ups in non-RISP situations. However, each batter only has 1 RISP column regardless if he is facing a left handed or right handed pitcher.

As an optional rule, whenever a hitter bats in an RISP situation and the pitcher throws from the opposite side that the hitter bats from, the pitchers grade is reduced by 1. For example; a right handed batter faces a grade B left handed pitcher with a runner on 2nd base. In this case, since the righty/lefty match up favors the batter, the pitchers grade is reduced to a C.

Season Use Limits for Relief Pitchers

Whenever a relief pitcher pitches 2 innings in a game, he should not be available to pitch in the next game. This adds more realism to pitcher management. It is also suggested to use any relief pitcher no more than 3 consecutive games. After his 3rd consecutive appearance he should be made unavailable.

Plays at the Plate

This optional rule only applies when a runner on 1st would score on a double, or a runner on 2nd would score on a single. In these 2 situations, the outfielder the hit went to has a chance to throw the runner out at home. To resolve this play, do a standard 2 die roll and refer to the outfielders arm rating. Outfielders rated with a **W** (weak) arm will throw out runners on rolls of 0-5. An **A** (average) arm rating allows an outfielder to throw out runners on rolls of 0-10. Outfielders rated as **E** (elite) throw out runners on rolls of 0-20. Base runners on 3rd can never be thrown out because even a single scores them automatically. Runners on second also would score automatically on a double with no throw.

OF Chance to Throw Out Runner	W= 0-5	A= 0-10	E= 0-20
Used when a runner would score from 1st on a double, or from 2nd on a single.			

Every player has an Injury rating. The injury rating is the value to the right of **INJ** on a players card. Injury ratings usually consist of a number followed by a letter. A typical INJ rating would look like 54C. The number value represents the chance that a player will sustain an injury, while the letter value determines the possible length of the injury. When an injury roll is required to check for a potential injury, if the roll is less than or equal to the players injury value, an injury occurs. If the roll is higher, no injury occurs. So for a player with a INJ of 54C, die results of 0-54 would mean that he sustained an injury.

The roll to check for an injury is a standard 2 die roll. The letter value of the injury rating only comes into play if an injury was found to take place according to the initial injury roll. Once an injury takes place, the length of the injury is determined by a 2nd die roll. This time a single die is used and the color of the die makes no difference. The result of this single die is cross referenced on the **'Injury Length'** table using the letter value of the players injury rating. See the table below.

Injury Length Table			
Injury	Roll Range		
Type	0-2	3-6	7-9
A	1	2	3
B	2	4	6
C	4	6	9
D	6	8	12
E	7	10	15

For the player with the INJ 54C rating, the letter C is what applies to this part of the check. The outcome corresponding to the single die roll determines how many games the player must remain out of the lineup. These are games, not days. So in an extended season, days the team has off do not count towards this total.

Limits on Number of Players injured at any Given Time

In order to not make the roster size too small due to injury, there are limits on how many players can be injured at any given time. The limit per team is 2 injuries. Of these, only 1 position player and 1 pitcher may be out due to injury at any point in the season. So once a pitcher is injured, that team is exempt from injury checks to any other pitchers until the injured pitcher returns to the lineup. The same applies to position players. Once a team has a position player injured, the other position players are exempt from injury checks until the injured position player returns.

When are Injury Rolls Performed?

Frequency of injury checks is different for pitchers than it is for position players. Every pitcher that made an appearance in the game, has a Injury check performed at the end of the game. If an injury occurs, it represents tightness that occurred after his performance, and the current game he just pitched in does not count as a game towards his injury length. Check pitchers in the order of their appearance in the game, with the starter getting checked first.

For position players, only 1 position player per team has the potential to be injured. After the game is over roll a single die. The result indicates which player has to have an injury check performed. The die result corresponds to the order of that games starting lineup. If the die result is a 3, then the player that started the game batting 3rd in the lineup has a 2 die injury check roll done. In this way, all the players that started have an equal chance that they require an injury check. If the single die results in a 0, all position players are exempt from an injury check for that game. If the pitcher was in the batting order and the single die corresponds to him, once again all position players are exempt from a check. The pitcher would not need an additional check as they are always required to have one, but would never be subjected to 2 injury checks for the same game.

Alternate Die Randomizer

Instead of simply rolling the red and white dice to get a 2 die result, you can use this optional 4 die roll randomizer to get a more varied 2 die result. First a little background on how this came about. Quite often I play baseball simulations in a public cafe where the table size is small. I put the player sheet inside a sheet protector and roll the dice on top of this as the little bit of padding deadens the dice so they don't bounce off the table. I also roll very fast by hand and don't shake up the dice too well. Rolling dice as I do doesn't give as random a result as using a dice cup or dice tower would. Meaning the way I roll dice was more apt to lend itself to streaky dice. I tested this die randomizer using Pine Tar and found I was getting more random die results that helped even game play.

To use the randomizer to get a 2 die result, you roll all 4 dice included with the game. The 6 sided green die acts as a switch for which 10 sided color die is used. When the 6 sided die is odd, you use the red 10 sided die. When the 6 sided die is even, you use the blue 10 sided die. Of course the white die is always used for the 2nd value of the two die result. Its as simple as that. There is a reference to the randomizer on the score sheet as a reminder.

In testing, I found the randomizer can add some excitement to the rolls as well. You may notice a good batting die result from the blue die such as a 0, only to then notice that the 6 sided die references the 7 on the red die instead.

Of course on situations that the game calls for a 3 die roll, such as on error checks, you would not refer to the 6 sided die.

Overview of Pine Tar Game Mechanics

Feature	Description
Game Play Time/per 9 innings	22 minute avg.
Most plays resolve in 1 roll with the bases empty	Yes-95%
Most plays resolve in 1 roll with runners on	Yes-84% do, Approximate
All plays resolve in 2 rolls or less	Yes
Pitching System Used	Grading system
Pitching Split Types	Home/Away, and for 3rd time thru the lineup
Batting Splits	vs RHP, vs LHP, RISP
Defensive check system	3 levels: Pos, Neg, and neutral
Error Checks	10 range system
Stealing Opportunities	By assigned grade & point cost
Pages of tables	2 pages
Manual size	12 pages, & optional 6 page rules
Learning curve	Learned in 1 sitting

Pine Tar and General Baseball Sim Resources

Below are various links to resources for Pine Tar, True to Life Baseball, and sabermetric sites.

http://ttlbaseballgame.com/ The home site for the Pine Tar and True to Life games. From here you can use the nav links on the bottom right to go to our Youtube channel, Facebook page, baseball blog. etc....

http://forums.delphiforums.com/ttlbaseball/ Forums for Pine Tar and TTL. A great place to learn more about the games and get the latest updates.

http://www.baseball-reference.com/ Life is Sport Games publishing has sponsored the Brewers 2011 page through the summer of 2015.

http://sabr.org/ The Society for American Baseball Research site. A lot of good information about baseball here.

Pine Tar Baseball

Tables-Front

Pine Tar Baseball ™

Red/white combo determines fielder.
Blue die tells if its an error, LO or PO.

Steal Opportunity Table

Grade	SB Pts	Opportunity	H & R
A	1	Any time - twice per series	Yes
B	2	Any time - once per series	Yes
C	2	6th inn or later - once per series	Yes
D	3	7th inn or later - once per series	Yes
E	3	8th inn or later - 1 every other series	No
N	NA	Never	No

Error Results

Roll	Pos	RS
0-10	P	1*
11	1B	2
12-21	1B	1*
22	1B	2
23-25	1B	1*
26-32	2B	1*
33	2B	2
34-41	2B	1*
42-43	3B	1*
44	3B	2
45-54	3B	1*
55	3B	2
56-65	SS	1*
66	SS	2
67-76	SS	1*
77	LF	2
78-83	LF	1*
84-87	CF	1*
88	CF	2
89-92	CF	1*
93-98	RF	1*
99	RF	2

*runners adv 2 bases when there are 2 outs

Ball 2 Rule for A+, A, & B pitchers

Anytime 1st base is occupied, a BB result is changed to ball 2 instead.

Chart Key by Header Color

Color	Rule Type
Brown	Mandatory
Blue	Optional

Hit Location

Roll	Loc
0-1	CF
2	RF
3-6	LF
7-10	CF
11-15	RF
16-18	LF
19*	IH*
20-25	CF
26-27	RF
28-29	LF
30-50	CF

*S runner = GO-SS

Pitcher Modifier Table

Apply on batter rolls of 0, 5, 10, 15, 20, 25, 30, 35, 40

New Result									
SO				A+	A	A-B			A-C
ROE							A-D		
HBP						C-E			
BB			A+	A-B	B				D
1B	A	A+	A-B		C-D	G	E-G	E-G	
2B	B			C-E	E-G				
3B		A-E							
HR	C-G	G	C-G	G					
	HR	3B	2B	1B	BB	HBP	ROE	SO	
	O r i g i n a l R e s u l t								

Base Advancement Table

Roll Type	Runner/Bases
Odd BODR	S/1, M/1, F/2
Doubled Die Roll	All/1
Even BODR	S/1, M/2, F/2

Fly Out/Tag Table

LF	CF	CF	RF	RF
3rd base	2nd base	3rd base	2nd base	3rd base
70	25	70	45	65

Lead runner is out on rolls of 77, 88, & 99.

GO Table
no runner on 1st

Player	LR Out	PO-3 RH	PO-3 RA
GO-1B	----	----	0-9
GO-2B	----	0	1-9
GO-P	0	1-8	9
GO-3B	0	1-6	7-9
GO-SS	0	1-5	6-9

GO Table w/runner on 1st

add 4 to white die (max value is 9) on H & R plays

Player	GDP	FC R3H	FC R3A	PO-3 RA
GO-1B	0-2	----	3-7	8-9
GO-2B	0-3	4	5-8	9
GO-P	0-6	7	----	8-9
GO-3B	0-2	3-5	6-7	8-9
GO-SS	0-3	4-6	7	8-9

Pine Tar Baseball

Tables-Back

Pine Tar Baseball ™

OF Chance to Throw Out Runner	W= 0-5	A= 0-10	E= 0-20
Used when a runner would score from 1st on a double, or from 2nd on a single.			

Positive Defensive Roll Table

Hits on rolls of 11 & 22		Pos	Neg/Neu
Roll	Fielder	Result	Hit-Loc
0-10	1B	GO	RF
11-22	RF	FO	RF
23-36	2B	GO	CF
37-51	CF	FO	CF
52-54	P	GO	I-Hit
55-70	SS	GO	CF
71-84	LF	FO	LF
85-99	3B	GO	LF

The white die # from the original 11 or 22 roll is used for base advancment on hits

Negative DefensiveTable

GO's or FO's on rolls of 66 & 88			
Batter Roll	Fielder Position	Result	
		Pos/Neu	Neg
66	All	No Change	Hit
88	All	No Change	Hit

Any base runners may only advance 1 base on hits fron negative range checks

Suicide Squeeze Play

Subtract 25 from batter's SHC value	
Roll	Result
Succeeds on even roll	SH 1-4
Succeeds on odd roll	SH 5-4
Succeeds with doubles	IH
Roll = batters SHC value	ROE-3
Fails on even roll	FC Lead R out, 5-2
Fails on odd roll	FC Lead R out, 3-2
Fails with doubles	Pop out, PODP 1-5

MIP Modifiers

Condition	Penalty/Bonus
Starter allows 5 or more runs	-1 to MIP, -1 grade level
Starter allows 2 or less runs	+1 to MIP
Starter allows 8 or more runs	Must be removed
Reliever allows 3 or more runs	Must be removed

H & R Modifiers

+5 to batters roll (ignore this if pitcher mod is applied)
+4 to white die on all ground out rolls (maximum value is 9)
100% chance the base runner takes an extra base on a hit

Standard Sacrifice Play

Use batter's base SHC value	
Roll	Result
Succeeds on even roll	SH 5-4
Succeeds on odd roll	SH 3-4
Succeeds with doubles	IH
Roll = batters SHC value	ROE-3
Fails on even roll	FC Lead R out, 1-6
Fails on odd roll	FC Lead R out, 3-6
Fails with doubles	Pop out, PODP 1-4

Injury Length Table

Injury Type	Roll Range		
	0-2	3-6	7-9
A	1	2	3
B	2	4	6
C	4	6	9
D	6	8	12
E	7	10	15

Date:				1	2	3	4	5	6	7	8	9	10	R	H	E	LOB	GDP	BB
Away																			
Home																			

Opp Pitcher throws:
Opp Catchers AR:
Game Start: Opp Pitcher Grade:

Randomizer>> *Odd: Red* *Even: Blue*

SB points left 4 3 2 1 0
Hit & Run's left 2 1 0

Pine Tar Scorecard

Def Chks 11, 22, 66, 88
Pitch Chks: 0, 5, 10, 15, 20, 15, 20, 25, 30, 35, 40

	Fld	Arm	BR	Player	1	2	3	4	5	6	7	8	9	10	R	H	2B	3B	HR	RBI
1																				
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
				10th batter/inn																

Game Totals:

W	L	SV	SVO	CG	GF	Pitcher	ER	ERA	AVG	WHIP	H	R	HR	BB	SO	HLD	TBF	IP	HB	WP	NP

BAL 2014

T.J. McFARLAND — Pitcher (R)

Bats: L   Throws: L
BR S   SBC 0   SBO N   SHC 89
INJ 16C   **T.J. McFARLAND**
Pitcher (R)   RG Pos   EC 8

Away Pitch Grade	B
Home Pitch Grade	C
MIP=3	

Batting	
--	HR*
--	3B
--	2B
0-3	1B
4	BB
--	HBP
--	ROE/PO
5-47	SO
48-52	GO-1B
53-56	GO-2B
57-58	GO-P
59-66	GO-SS
67-72	GO-3B
73-76	FO-RF
77-86	FO-CF
87-96	FO-LF
97	LO-1B
98	ROE/LO
99	BK/WP

BK/WP --/--

PEARCE — Firstbaseman-LF-RF

Bats: R   Grade A49   Throws: R
BR M   SBC 89   SBO D   SHC 89
Arm A   Steve   RG Neu   EC 4
INJ 54D   **PEARCE**

vs RHP		RISP		vs LHP	
0-4	HR*	0-5	HR*	0-7	
--	3B	--	3B	--	
5-10	2B	6-9	2B	8-16	
11-24	1B	10-27	1B	17-28	
25-34	BB	28-38	BB	29-39	
35-36	HBP	--	HBP	40-41	
--	ROE/PO	39-41	ROE/PO	40-41	
37-59	SO	42-62	SO	42-53	
60-61	GO-1B	63-64	GO-1B	54-57	
62-66	GO-2B	65-67	GO-2B	58-61	
67	GO-P	68	GO-P	62	
68-72	GO-SS	69-73	GO-SS	63-68	
73-77	GO-3B	74-77	GO-3B	69-73	
78-80	FO-RF	78-80	FO-RF	74-77	
81-88	FO-CF	81-88	FO-CF	78-87	
89-96	FO-LF	89-96	FO-LF	88-96	
97	LO-3B	97	LO-SS	97	
98	ROE/LO	98	ROE/LO	98	
99	BK/WP	99	BK/WP	99	

FLAHERTY — Thirdbaseman-2B-SS-1B-LF-RF

Bats: L   Grade D31   Throws: R
BR M   SBC 89   SBO E   SHC 53
Arm A   Ryan   RG Neg   EC 8
INJ 54D   **FLAHERTY**

vs RHP		RISP		vs LHP	
0	HR*	0-3	HR*	0-4	
--	3B	4	3B	--	
1-5	2B	5-10	2B	5-6	
6-20	1B	11-23	1B	7-15	
21-27	BB	24-36	BB	16-21	
28-29	HBP	37-39	HBP	22-23	
--	ROE/PO	--	ROE/PO	22-23	
30-48	SO	40-53	SO	24-58	
49-53	GO-1B	54-58	GO-1B	59-64	
54-60	GO-2B	59-65	GO-2B	65-70	
61	GO-P	66	GO-P	71	
62-67	GO-SS	67-71	GO-SS	72-74	
68-70	GO-3B	72-75	GO-3B	75-76	
71-80	FO-RF	76-82	FO-RF	77-83	
81-91	FO-CF	83-90	FO-CF	84-92	
92-96	FO-LF	91-96	FO-LF	93-96	
97	LO-3B	97	LO-SS	97	
98	ROE/LO	98	ROE/LO	98	
99	BK/WP	99	BK/WP	99	

HUNDLEY — Catcher

Bats: R   Grade D30   Throws: R
BR M   SBC 89   SBO E   SHC 57
AR +10   Nick   RG Neu   EC 5
INJ 83E   **HUNDLEY**

vs RHP		RISP		vs LHP	
0-2	HR*	0-3	HR*	--	
--	3B	--	3B	--	
3-5	2B	4-5	2B	0-2	
6-22	1B	6-20	1B	3-20	
23-26	BB	21-26	BB	21-28	
--	HBP	--	HBP	--	
27	ROE/PO	--	ROE/PO	--	
28-54	SO	27-49	SO	29-52	
55-57	GO-1B	50-53	GO-1B	53-55	
58-61	GO-2B	54-58	GO-2B	56-61	
62	GO-P	59	GO-P	62	
63-68	GO-SS	60-66	GO-SS	63-69	
69-73	GO-3B	67-72	GO-3B	70-75	
74-77	FO-RF	73-77	FO-RF	76-79	
78-87	FO-CF	78-87	FO-CF	80-88	
88-96	FO-LF	88-96	FO-LF	89-96	
97	LO-3B	97	LO-SS	97	
98	ROE/LO	98	ROE/LO	98	
99	BK/WP	99	BK/WP	99	

YOUNG — Leftfielder-RF

Bats: R   Grade C39   Throws: R
BR M   SBC 89   SBO E   SHC 89
Arm A   Delmon   RG Neg   EC 7
INJ 72D   **YOUNG**

vs RHP		RISP		vs LHP	
0-2	HR*	0-2	HR*	0-1	
--	3B	3	3B	2	
3-6	2B	4-5	2B	3-7	
7-28	1B	6-25	1B	8-27	
29-33	BB	26-29	BB	28-29	
34-35	HBP	--	HBP	--	
36	ROE/PO	30-32	ROE/PO	30	
37-57	SO	33-50	SO	31-47	
58-59	GO-1B	51-54	GO-1B	48-51	
60-64	GO-2B	55-58	GO-2B	52-56	
65	GO-P	59	GO-P	57	
66-71	GO-SS	60-65	GO-SS	58-66	
72-76	GO-3B	66-71	GO-3B	67-72	
77-80	FO-RF	72-76	FO-RF	73-77	
81-88	FO-CF	77-87	FO-CF	78-87	
89-96	FO-LF	88-96	FO-LF	88-96	
97	LO-3B	97	LO-SS	97	
98	ROE/LO	98	ROE/LO	98	
99	BK/WP	99	BK/WP	99	

Starting Line Up-1

Player	BO	Pos
Markakis	1	RF
Machado	2	3B
Jones	3	CF
Cruz	4	DH
Davis	5	1B
Hardy	6	SS
Lough	7	LF
Joseph	8	C
Schoop	9	2B

Starting Line Up-2

Player	BO	Pos
Markakis	1	RF
Pearce	2	LF
Jones	3	CF
Young	4	DH
Davis	5	1B
Hardy	6	SS
Machado	7	3B
Flaherty	8	2B
Hundley	9	C

CHRIS TILLMAN

Bats: R — Throws: R
BR S — SBC 0 — SBO N — SHC 89
INJ N
Pitcher (S) — RG Neg — EC 7

Away Pitch Grade: C/B
Home Pitch Grade: A/A+
MIP=6
BK/WP --/99

Range	Batting
--	HR*
--	3B
--	2B
0-4	1B
5	BB
--	HBP
--	ROE/PO
6-47	SO
48-52	GO-1B
53-56	GO-2B
57-58	GO-P
59-66	GO-SS
67-72	GO-3B
73-76	FO-RF
77-86	FO-CF
87-96	FO-LF
97	LO-SS
98	ROE/LO
99	BK/WP

WEI-YIN CHEN

Bats: L — Throws: L
BR S — SBC 0 — SBO N — SHC 89
INJ 1D
Pitcher (S) — RG Pos — EC 0

Away Pitch Grade: B/B
Home Pitch Grade: B/C
MIP=6
BK/WP --/57

Range	Batting
--	HR*
--	3B
0	2B
1-2	1B
3	BB
--	HBP
--	ROE/PO
4-53	SO
54-58	GO-1B
59-67	GO-2B
68	GO-P
69-72	GO-SS
73-75	GO-3B
76-83	FO-RF
84-92	FO-CF
93-96	FO-LF
97	LO-SS
98	ROE/LO
99	BK/WP

BUD NORRIS

Bats: R — Throws: R
BR S — SBC 0 — SBO N — SHC 81
INJ 6D
Pitcher (S) — RG Neg — EC 3

Away Pitch Grade: C/B
Home Pitch Grade: A/A+
MIP=6
BK/WP --/96

Range	Batting
--	HR*
--	3B
0-1	2B
2-11	1B
12-13	BB
14	HBP
--	ROE/PO
15-47	SO
48-52	GO-1B
53-56	GO-2B
57-58	GO-P
59-66	GO-SS
67-72	GO-3B
73-76	FO-RF
77-86	FO-CF
87-96	FO-LF
97	LO-SS
98	ROE/LO
99	BK/WP

MIGUEL GONZALEZ

Bats: R — Throws: R
BR S — SBC 0 — SBO N — SHC 49
INJ 9D
Pitcher (S) — RG Neg — EC 5

Away Pitch Grade: C/D
Home Pitch Grade: C/D
MIP=6
BK/WP 32/99

Range	Batting
--	HR*
--	3B
--	2B
0-3	1B
4	BB
--	HBP
--	ROE/PO
5-47	SO
48-52	GO-1B
53-56	GO-2B
57-58	GO-P
59-66	GO-SS
67-72	GO-3B
73-76	FO-RF
77-86	FO-CF
87-96	FO-LF
97	LO-SS
98	ROE/LO
99	BK/WP

UBALDO JIMENEZ

Bats: R — Throws: R
BR M — SBC 0 — SBO N — SHC 66
INJ 15D
Pitcher (S) — RG Neu — EC 0

Away Pitch Grade: C/D
Home Pitch Grade: C/E
MIP=6
BK/WP --/99

Range	Batting
--	HR*
--	3B
--	2B
0-9	1B
10-14	BB
--	HBP
15-16	ROE/PO
17-45	SO
46-47	GO-1B
48-52	GO-2B
53	GO-P
54-60	GO-SS
61-66	GO-3B
67-72	FO-RF
73-84	FO-CF
85-96	FO-LF
97	LO-SS
98	ROE/LO
99	BK/WP

BRIAN MATUSZ

Bats: L — Throws: L
BR S — SBC 0 — SBO N — SHC N
INJ 2C
Pitcher (R) — RG Neg — EC 0

Away Pitch Grade: D
Home Pitch Grade: B
MIP=2
BK/WP --/99

Range	Batting
--	HR*
--	3B
--	2B
0-12	1B
--	BB
--	HBP
--	ROE/PO
13-47	SO
48-52	GO-1B
53-56	GO-2B
57-58	GO-P
59-66	GO-SS
67-72	GO-3B
73-76	FO-RF
77-86	FO-CF
87-96	FO-LF
97	LO-SS
98	ROE/LO
99	BK/WP

TOMMY HUNTER

Bats: R — Throws: R
BR S — SBC 0 — SBO N — SHC N
INJ 3C
Pitcher (R) — RG Pos — EC 9

Away Pitch Grade: B
Home Pitch Grade: A
MIP=2
BK/WP --/99

Range	Batting
--	HR*
--	3B
--	2B
0-3	1B
4	BB
--	HBP
--	ROE/PO
5-47	SO
48-52	GO-1B
53-56	GO-2B
57-58	GO-P
59-66	GO-SS
67-72	GO-3B
73-76	FO-RF
77-86	FO-CF
87-96	FO-LF
97	LO-SS
98	ROE/LO
99	BK/WP

DARREN O'DAY

Bats: R — Throws: R
BR S — SBC 0 — SBO N — SHC N
INJ N
Pitcher (R) — RG Pos — EC 7

Away Pitch Grade: A+
Home Pitch Grade: A
MIP=2
BK/WP --/--

Range	Batting
--	HR*
--	3B
--	2B
0-3	1B
4	BB
--	HBP
--	ROE/PO
5-47	SO
48-52	GO-1B
53-56	GO-2B
57-58	GO-P
59-66	GO-SS
67-72	GO-3B
73-76	FO-RF
77-86	FO-CF
87-96	FO-LF
97	LO-SS
98	ROE/LO
99	BK/WP

ZACH BRITTON

Bats: L — Throws: L
BR M — SBC 0 — SBO N — SHC N
INJ N
Pitcher (C) — RG Pos — EC 0

Away Pitch Grade: B
Home Pitch Grade: A+
MIP=1
BK/WP --/--

Range	Batting
--	HR*
--	3B
--	2B
0-22	1B
23	BB
--	HBP
24	ROE/PO
25-47	SO
48-52	GO-1B
53-56	GO-2B
57-58	GO-P
59-66	GO-SS
67-72	GO-3B
73-76	FO-RF
77-86	FO-CF
87-96	FO-LF
97	LO-SS
98	ROE/LO
99	BK/WP

MARKAKIS — Nick

Bats: L Grade C37 Throws: L
BR S SBC 66 SBO E SHC 43
Arm A RG Neu EC 0
INJ 27A
Rightfielder-1B

vs RHP		RISP	vs LHP	
0-2	HR*	0-1	HR*	--
--	3B	2	3B	--
3-6	2B	3-5	2B	0-2
7-24	1B	6-19	1B	3-24
25-33	BB	20-31	BB	25-32
--	HBP	32-33	HBP	33
34	ROE/PO	--	ROE/PO	34
35-44	SO	34-43	SO	35-51
45-51	GO-1B	44-49	GO-1B	52-59
52-58	GO-2B	50-58	GO-2B	60-67
59	GO-P	59	GO-P	68
60-65	GO-SS	60-64	GO-SS	69-72
66-69	GO-3B	65-69	GO-3B	73-75
70-79	FO-RF	70-79	FO-RF	76-83
80-90	FO-CF	80-90	FO-CF	84-92
91-96	FO-LF	91-96	FO-LF	93-96
97	LO-1B	97	LO-2B	97
98	ROE/LO	98	ROE/LO	98
99	BK/WP	99	BK/WP	99

MACHADO — Manny

Bats: R Grade B42 Throws: R
BR M SBC 89 SBO E SHC 66
RG Pos EC 4
INJ 73D
Thirdbaseman

vs RHP		RISP	vs LHP	
0-3	HR*	0-3	HR*	0-1
--	3B	--	3B	--
4-6	2B	4-5	2B	2-7
7-26	1B	6-26	1B	8-22
27-33	BB	27-40	BB	23-25
--	HBP	41-42	HBP	26
34	ROE/PO	--	ROE/PO	--
35-52	SO	43-59	SO	27-48
53-55	GO-1B	60-61	GO-1B	49-50
56-61	GO-2B	62-66	GO-2B	51-55
62	GO-P	67	GO-P	56
63-69	GO-SS	68-72	GO-SS	57-64
70-75	GO-3B	73-77	GO-3B	65-69
76-79	FO-RF	78-80	FO-RF	70-74
80-88	FO-CF	81-88	FO-CF	75-85
89-96	FO-LF	89-96	FO-LF	86-96
97	LO-1B	97	LO-2B	97
98	ROE/LO	98	ROE/LO	98
99	BK/WP	99	BK/WP	99

JONES — Adam

Bats: R Grade B41 Throws: R
BR M SBC 87 SBO D SHC 42
Arm E RG Neu EC 6
INJ 11A
Centerfielder

vs RHP		RISP	vs LHP	
0-4	HR*	0-2	HR*	0-5
--	3B	3	3B	6
5-7	2B	4-8	2B	7-12
8-24	1B	9-28	1B	13-31
25	BB	29-31	BB	32-37
26-27	HBP	32-34	HBP	38-39
28	ROE/PO	35-36	ROE/PO	40
29-48	SO	37-53	SO	41-58
49-50	GO-1B	54-57	GO-1B	59-61
51-55	GO-2B	58-61	GO-2B	62-66
56	GO-P	62	GO-P	67
57-64	GO-SS	63-68	GO-SS	68-72
65-69	GO-3B	69-73	GO-3B	73-77
70-74	FO-RF	74-77	FO-RF	78-80
75-85	FO-CF	78-87	FO-CF	81-88
86-96	FO-LF	88-96	FO-LF	89-96
97	LO-1B	97	LO-2B	97
98	ROE/LO	98	ROE/LO	98
99	BK/WP	99	BK/WP	99

CRUZ — Nelson

Bats: R Grade B42 Throws: R
BR M SBC 43 SBO D SHC 32
Arm A RG Neu EC 4
INJ 11A
Leftfielder-RF

vs RHP		RISP	vs LHP	
0-6	HR*	0-3	HR*	0-5
--	3B	4	3B	--
7-11	2B	5-7	2B	6-11
12-23	1B	8-22	1B	12-26
24-29	BB	23-32	BB	27-38
30	HBP	33	HBP	39
31	ROE/PO	34-35	ROE/PO	40
32-53	SO	36-54	SO	41-58
54-57	GO-1B	55-57	GO-1B	59-61
58-61	GO-2B	58-61	GO-2B	62-66
62	GO-P	62	GO-P	67
63-68	GO-SS	63-68	GO-SS	68-72
69-73	GO-3B	69-73	GO-3B	73-77
74-77	FO-RF	74-77	FO-RF	78-80
78-87	FO-CF	78-87	FO-CF	81-88
88-96	FO-LF	88-96	FO-LF	89-96
97	LO-1B	97	LO-2B	97
98	ROE/LO	98	ROE/LO	98
99	BK/WP	99	BK/WP	99

DAVIS — Chris

Bats: L Grade D31 Throws: R
BR S SBC 66 SBO E SHC 49
RG Neu EC 5
INJ 43C
Firstbaseman-3B

vs RHP		RISP	vs LHP	
0-4	HR*	0-4	HR*	0-4
--	3B	--	3B	--
5-6	2B	5-8	2B	5-8
7-16	1B	9-18	1B	9-16
17-29	BB	19-33	BB	17-22
30	HBP	34-35	HBP	23-25
31	ROE/PO	36	ROE/PO	26
32-65	SO	37-64	SO	27-57
66-69	GO-1B	65-66	GO-1B	58-61
70-73	GO-2B	67-71	GO-2B	62-68
74	GO-P	72	GO-P	69
75-76	GO-SS	73-76	GO-SS	70-73
77	GO-3B	77-78	GO-3B	74-75
78-85	FO-RF	79-86	FO-RF	76-83
86-93	FO-CF	87-93	FO-CF	84-92
94-96	FO-LF	94-96	FO-LF	93-96
97	LO-1B	97	LO-2B	97
98	ROE/LO	98	ROE/LO	98
99	BK/WP	99	BK/WP	99

HARDY — J.J.

Bats: R Grade C35 Throws: R
BR S SBC 0 SBO N SHC 72
RG Neu EC 4
INJ 41B
Shortstop

vs RHP		RISP	vs LHP	
0	HR*	0-1	HR*	0-2
--	3B	--	3B	--
1-5	2B	2-4	2B	3-7
6-25	1B	5-26	1B	8-20
26-30	BB	27-33	BB	21-26
31	HBP	34	HBP	--
32	ROE/PO	35	ROE/PO	27
33-52	SO	36-47	SO	28-41
53-55	GO-1B	48-51	GO-1B	42-46
56-61	GO-2B	52-56	GO-2B	47-53
62	GO-P	57	GO-P	54
63-69	GO-SS	58-66	GO-SS	55-62
70-75	GO-3B	67-72	GO-3B	63-68
76-79	FO-RF	73-77	FO-RF	69-73
80-88	FO-CF	78-87	FO-CF	74-84
89-96	FO-LF	88-96	FO-LF	85-96
97	LO-1B	97	LO-2B	97
98	ROE/LO	98	ROE/LO	98
99	BK/WP	99	BK/WP	99

LOUGH — David

Bats: L Grade B40 Throws: L
BR F SBC 61 SBO B SHC 54
Arm A RG Pos EC 4
INJ 45D
Leftfielder-OF

vs RHP		RISP	vs LHP	
0-2	HR*	--	HR*	--
3-4	3B	--	3B	--
5-7	2B	0-4	2B	0-4
8-22	1B	5-16	1B	5-8
23-31	BB	17-23	BB	--
--	HBP	24-25	HBP	--
32	ROE/PO	26-28	ROE/PO	9-13
33-50	SO	29-50	SO	14-28
51-54	GO-1B	51-54	GO-1B	29-38
55-60	GO-2B	55-60	GO-2B	39-50
61	GO-P	61	GO-P	51-53
62-66	GO-SS	62-66	GO-SS	54-60
67-68	GO-3B	67-68	GO-3B	61-64
69-79	FO-RF	69-79	FO-RF	65-77
80-91	FO-CF	80-91	FO-CF	78-90
92-96	FO-LF	92-96	FO-LF	91-96
97	LO-1B	97	LO-2B	97
98	ROE/LO	98	ROE/LO	98
99	BK/WP	99	BK/WP	99

JOSEPH — Caleb

Bats: R Grade D32 Throws: R
BR M SBC 0 SBO E SHC 85
AR -13 RG Neu EC 5
INJ 73D
Catcher

vs RHP		RISP	vs LHP	
0-1	HR*	0-3	HR*	0-5
--	3B	--	3B	--
2-5	2B	4-5	2B	6-7
6-18	1B	6-17	1B	8-17
19-24	BB	18-27	BB	18-23
25	HBP	--	HBP	24
26	ROE/PO	28	ROE/PO	25
27-51	SO	29-51	SO	26-50
52-55	GO-1B	52-55	GO-1B	51-54
56-61	GO-2B	56-61	GO-2B	55-58
62	GO-P	62	GO-P	59
63-69	GO-SS	63-69	GO-SS	60-65
70-75	GO-3B	70-75	GO-3B	66-71
76-79	FO-RF	76-79	FO-RF	72-76
80-88	FO-CF	80-88	FO-CF	77-87
89-96	FO-LF	89-96	FO-LF	88-96
97	LO-1B	97	LO-2B	97
98	ROE/LO	98	ROE/LO	98
99	BK/WP	99	BK/WP	99

SCHOOP — Jonathan

Bats: R Grade D32 Throws: R
BR M SBC 89 SBO E SHC 70
RG Pos EC 6
INJ 31C
Secondbaseman-3B

vs RHP		RISP	vs LHP	
0-3	HR*	0-2	HR*	0-1
--	3B	--	3B	--
4-7	2B	3-5	2B	2-4
8-19	1B	6-19	1B	5-18
20	BB	20-23	BB	19-23
21-22	HBP	24-25	HBP	24
23-24	ROE/PO	--	ROE/PO	25
25-48	SO	26-53	SO	26-53
49-50	GO-1B	54-57	GO-1B	54-57
51-55	GO-2B	58-61	GO-2B	58-61
56	GO-P	62	GO-P	62
57-64	GO-SS	63-68	GO-SS	63-68
65-69	GO-3B	69-73	GO-3B	69-73
70-74	FO-RF	74-77	FO-RF	74-77
75-85	FO-CF	78-87	FO-CF	78-87
86-96	FO-LF	88-96	FO-LF	88-96
97	LO-1B	97	LO-2B	97
98	ROE/LO	98	ROE/LO	98
99	BK/WP	99	BK/WP	99

BOS 2014

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Bats: L   **Throws: L**
BR S   SBC 0   SBO N   SHC N
INJ 3C   **CRAIG BRESLOW**
Pitcher (R)   RG Neg   EC 0

Batting	
--	HR*
--	3B
--	2B
0-3	1B
4	BB
--	HBP
--	ROE/PO
5-47	SO
48-53	GO-1B
54-62	GO-2B
63	GO-P
64-70	GO-SS
71-74	GO-3B
75-83	FO-RF
84-92	FO-CF
93-96	FO-LF
97	LO-P
98	ROE/LO
99	BK/WP

Away Pitch Grade: **E**

Home Pitch Grade: **G**

MIP=2

BK/WP 84/99

Bats: R   Grade E27   **Throws: R**
BR M   SBC 49   SBO D   SHC 49
Will   RG Neg   EC 4
INJ 73E   **MIDDLEBROOKS**
Thirdbaseman-1B

vs RHP		RISP	vs LHP	
0-1	HR*	--	HR*	--
--	3B	--	3B	--
2-5	2B	0-5	2B	0-4
6-17	1B	6-26	1B	5-15
18-24	BB	27-31	BB	16-22
25-26	HBP	--	HBP	--
--	ROE/PO	--	ROE/PO	--
27-54	SO	32-59	SO	23-57
55-57	GO-1B	60-61	GO-1B	58-59
58-61	GO-2B	62-66	GO-2B	60-64
62	GO-P	67	GO-P	65
63-68	GO-SS	68-72	GO-SS	66-71
69-73	GO-3B	73-77	GO-3B	72-76
74-77	FO-RF	78-80	FO-RF	77-80
78-87	FO-CF	81-88	FO-CF	81-88
88-96	FO-LF	89-96	FO-LF	89-96
97	LO-3B	97	LO-3B	97
98	ROE/LO	98	ROE/LO	98
99	BK/WP	99	BK/WP	99

Bats: R   Grade B44   **Throws: R**
BR M   SBC 69   SBO C   SHC 89
Arm E   Mookie   RG Neg   EC 5
INJ 82E   **BETTS**
Centerfielder-2B-RF

vs RHP		RISP	vs LHP	
0-2	HR*	0-1	HR*	0-1
--	3B	--	3B	2-3
3-7	2B	2-6	2B	4-10
8-23	1B	7-22	1B	11-30
24-35	BB	23-31	BB	31-35
36	HBP	32-33	HBP	--
37	ROE/PO	34-35	ROE/PO	--
38-50	SO	36-49	SO	36-53
51-54	GO-1B	50-53	GO-1B	54-57
55-58	GO-2B	54-58	GO-2B	58-61
59	GO-P	59	GO-P	62
60-65	GO-SS	60-66	GO-SS	63-68
66-71	GO-3B	67-72	GO-3B	69-73
72-76	FO-RF	73-77	FO-RF	74-77
77-87	FO-CF	78-87	FO-CF	78-87
88-96	FO-LF	88-96	FO-LF	88-96
97	LO-3B	97	LO-SS	97
98	ROE/LO	98	ROE/LO	98
99	BK/WP	99	BK/WP	99

Starting Line Up-1

Player	BO	Pos
Holt	1	3B
Pedroia	2	2B
Ortiz	3	DH
Cespedes	4	LF
Napoli	5	1B
Nava	6	RF
Bradley	7	CF
Bogearts	8	SS
Vazquez	9	C

Bats: R   Grade E28   **Throws: R**
BR S   SBC 0   SBO E   SHC 75
AR +5   David   RG Neu   EC 5
INJ 83E   **ROSS**
Catcher

vs RHP		RISP	vs LHP	
0-2	HR*	0-1	HR*	0-6
--	3B	--	3B	--
3-6	2B	2-6	2B	7-10
7-13	1B	7-18	1B	11-18
14-21	BB	19-22	BB	19-30
--	HBP	--	HBP	--
--	ROE/PO	--	ROE/PO	--
22-36	SO	23-59	SO	31-62
37-39	GO-1B	60-61	GO-1B	63-64
40-45	GO-2B	62-66	GO-2B	65-67
46-47	GO-P	67	GO-P	68
48-58	GO-SS	68-72	GO-SS	69-73
59-67	GO-3B	73-77	GO-3B	74-77
68-74	FO-RF	78-80	FO-RF	78-80
75-86	FO-CF	81-88	FO-CF	81-88
87-96	FO-LF	89-96	FO-LF	89-96
97	LO-3B	97	LO-SS	97
98	ROE/LO	98	ROE/LO	98
99	BK/WP	99	BK/WP	99

Bats: R   Grade C37   **Throws: R**
BR M   SBC 89   SBO D   SHC 78
Arm E   Shane   RG Pos   EC 3
INJ 89E   **VICTORINO**
Rightfielder

vs RHP		RISP	vs LHP	
0-1	HR*	--	HR*	--
2	3B	0	3B	--
3-8	2B	1-4	2B	3-4
9-21	1B	5-21	1B	5-29
22-27	BB	22-25	BB	30-32
28	HBP	--	HBP	--
--	ROE/PO	26-28	ROE/PO	33-36
29-45	SO	29-46	SO	37-50
46-47	GO-1B	47-51	GO-1B	51-54
48-52	GO-2B	52-56	GO-2B	55-58
53	GO-P	57	GO-P	59
54-60	GO-SS	58-66	GO-SS	60-65
61-66	GO-3B	67-72	GO-3B	66-71
67-72	FO-RF	73-77	FO-RF	72-76
73-84	FO-CF	78-87	FO-CF	77-87
85-96	FO-LF	88-96	FO-LF	88-96
97	LO-3B	97	LO-3B	97
98	ROE/LO	98	ROE/LO	98
99	BK/WP	99	BK/WP	99

Starting Line Up-2

Player	BO	Pos
Holt	1	2B
Betts	2	CF
Ortiz	3	DH
Cespedes	4	LF
Napoli	5	1B
Nava	6	RF
Middlebrooks	7	3B
Bogearts	8	SS
Ross	9	C

CLAY BUCHHOLZ

Bats: L Throws: R
BR S   SBC 0   SBO N   SHC 89
INJ 6D
Pitcher (S)   RG Pos   EC 0

Away Pitch Grade: B/A
Home Pitch Grade: C/B
MIP=6

Range	Batting
--	HR*
--	3B
--	2B
0-27	1B
--	BB
--	HBP
--	ROE/PO
28-49	SO
50-56	GO-1B
57-63	GO-2B
64	GO-P
65-70	GO-SS
71-74	GO-3B
75-83	FO-RF
84-92	FO-CF
93-96	FO-LF
97	LO-3B
98	ROE/LO
99	BK/WP

BK/WP --/99

RUBBY De La ROSA

Bats: R Throws: R
BR M   SBC 0   SBO N   SHC 89
INJ 24D
Pitcher (S)   RG Pos   EC 3

Away Pitch Grade: D/C
Home Pitch Grade: C/C
MIP=6

Range	Batting
--	HR*
--	3B
--	2B
0-16	1B
17-21	BB
--	HBP
--	ROE/PO
22-39	SO
40-41	GO-1B
42-47	GO-2B
48-49	GO-P
50-59	GO-SS
60-68	GO-3B
69-75	FO-RF
76-86	FO-CF
87-96	FO-LF
97	LO-3B
98	ROE/LO
99	BK/WP

BK/WP 49/99

BRANDON WORKMAN

Bats: R Throws: R
BR S   SBC 0   SBO N   SHC 89
INJ 27D
Pitcher (S)   RG Neg   EC 8

Away Pitch Grade: C/C
Home Pitch Grade: C/D
MIP=6

Range	Batting
--	HR*
--	3B
--	2B
0-5	1B
--	BB
--	HBP
--	ROE/PO
6-53	SO
54-59	GO-1B
60-67	GO-2B
68	GO-P
69-72	GO-SS
73-75	GO-3B
76-83	FO-RF
84-92	FO-CF
93-96	FO-LF
97	LO-3B
98	ROE/LO
99	BK/WP

BK/WP --/99

JOE KELLY

Bats: R Throws: R
BR M   SBC 89   SBO D   SHC 66
INJ 39D
Pitcher (S)   RG Neg   EC 0

Away Pitch Grade: C/A
Home Pitch Grade: B/A+
MIP=6

Range	Batting
--	HR*
--	3B
0-3	2B
4-14	1B
--	BB
15-16	HBP
--	ROE/PO
17-41	SO
42-46	GO-1B
47-53	GO-2B
54	GO-P
55-62	GO-SS
63-68	GO-3B
69-73	FO-RF
74-84	FO-CF
85-96	FO-LF
97	LO-3B
98	ROE/LO
99	BK/WP

BK/WP --/99

ALLEN WEBSTER

Bats: R Throws: R
BR S   SBC 0   SBO N   SHC N
INJ 37D
Pitcher (S)   RG Pos   EC 0

Away Pitch Grade: A/A+
Home Pitch Grade: C/B
MIP=6

Range	Batting
--	HR*
--	3B
--	2B
0-5	1B
6	BB
--	HBP
--	ROE/PO
7-47	SO
48-53	GO-1B
54-60	GO-2B
61	GO-P
62-67	GO-SS
68-70	GO-3B
71-80	FO-RF
81-91	FO-CF
92-96	FO-LF
97	LO-3B
98	ROE/LO
99	BK/WP

BK/WP --/99

EDWARD MUJICA

Bats: R Throws: R
BR S   SBC 0   SBO N   SHC 66
INJ 1C
Pitcher (R)   RG Neu   EC 9

Away Pitch Grade: B
Home Pitch Grade: E
MIP=2

Range	Batting
--	HR*
--	3B
--	2B
0-14	1B
--	BB
--	HBP
--	ROE/PO
15-45	SO
46-47	GO-1B
48-52	GO-2B
53	GO-P
54-60	GO-SS
61-66	GO-3B
67-72	FO-RF
73-84	FO-CF
85-96	FO-LF
97	LO-3B
98	ROE/LO
99	BK/WP

BK/WP --/87

JUNICHI TAZAWA

Bats: R Throws: R
BR S   SBC 0   SBO N   SHC N
INJ N
Pitcher (R)   RG Neg   EC 9

Away Pitch Grade: A
Home Pitch Grade: B
MIP=2

Range	Batting
--	HR*
--	3B
--	2B
0-3	1B
4	BB
--	HBP
--	ROE/PO
5-47	SO
48-52	GO-1B
53-56	GO-2B
57-58	GO-P
59-66	GO-SS
67-72	GO-3B
73-76	FO-RF
77-86	FO-CF
87-96	FO-LF
97	LO-3B
98	ROE/LO
99	BK/WP

BK/WP --/99

BURKE BADENHOP

Bats: R Throws: R
BR S   SBC 0   SBO N   SHC 62
INJ N
Pitcher (R)   RG Pos   EC 9

Away Pitch Grade: C
Home Pitch Grade: B
MIP=2

Range	Batting
--	HR*
--	3B
0-2	2B
3-7	1B
8-10	BB
--	HBP
--	ROE/PO
11-60	SO
61-62	GO-1B
63-66	GO-2B
67	GO-P
68-72	GO-SS
73-77	GO-3B
78-80	FO-RF
81-89	FO-CF
90-96	FO-LF
97	LO-3B
98	ROE/LO
99	BK/WP

BK/WP --/99

KOJI UEHARA

Bats: R Throws: R
BR S   SBC 0   SBO N   SHC N
INJ 1C
Pitcher (C)   RG Neu   EC 0

Away Pitch Grade: B
Home Pitch Grade: A
MIP=1

Range	Batting
--	HR*
--	3B
--	2B
0-2	1B
4-10	BB
--	HBP
--	ROE/PO
11-47	SO
48-52	GO-1B
53-56	GO-2B
57-58	GO-P
59-66	GO-SS
67-72	GO-3B
73-76	FO-RF
77-86	FO-CF
87-96	FO-LF
97	LO-3B
98	ROE/LO
99	BK/WP

BK/WP --/88

HOLT

Bats: L — Grade B40 — Throws: R
BR M — SBC 85 — SBO C — SHC 89
Arm W — Brock — RG Pos — EC 5
INJ 51D — **HOLT**
Thirdbaseman-OF-SS-2B-1B

vs RHP		RISP		vs LHP
0	HR*	--	HR*	0
1	3B		3B	1-2
2-5	2B	0-3	2B	3-9
6-24	1B	4-21	1B	10-26
25-30	BB	22-30	BB	27-33
31	HBP	--	HBP	
32	ROE/PO	31	ROE/PO	--
33-50	SO	32-50	SO	34-57
51-54	GO-1B	51-54	GO-1B	58-61
55-60	GO-2B	55-60	GO-2B	62-68
61	GO-P	61	GO-P	69
62-66	GO-SS	62-66	GO-SS	70-73
67-68	GO-3B	67-68	GO-3B	74-75
69-79	FO-RF	69-79	FO-RF	76-83
80-91	FO-CF	80-91	FO-CF	84-92
92-96	FO-LF	92-96	FO-LF	93-96
97	LO-2B	97	LO-1B	97
98	ROE/LO	98	ROE/LO	98
99	BK/WP	99	BK/WP	99

PEDROIA

Bats: R — Grade C39 — Throws: R
BR M — SBC 49 — SBO D — SHC 71
Dustin — RG Neu — EC 2
INJ 33C — **PEDROIA**
Secondbaseman

vs RHP		RISP		vs LHP
0	HR*	0	HR*	0-1
--	3B	--	3B	--
1-4	2B	1-7	2B	2-9
5-25	1B	8-20	1B	10-22
26-33	BB	21-29	BB	23-32
--	HBP	30	HBP	--
34-35	ROE/PO	31	ROE/PO	--
36-47	SO	32-40	SO	33-46
48-51	GO-1B	41-42	GO-1B	47-51
52-56	GO-2B	43-47	GO-2B	52-56
57	GO-P	48-49	GO-P	57
58-66	GO-SS	50-59	GO-SS	58-66
67-72	GO-3B	60-68	GO-3B	67-72
73-77	FO-RF	69-75	FO-RF	73-77
78-87	FO-CF	76-86	FO-CF	78-87
88-96	FO-LF	87-96	FO-LF	88-96
97	LO-2B	97	LO-1B	97
98	ROE/LO	98	ROE/LO	98
99	BK/WP	99	BK/WP	99

ORTIZ

Bats: L — Grade B40 — Throws: L
BR S — SBC 0 — SBO N — SHC N
Arm W — David — RG Neg — EC 6
INJ 39B — **ORTIZ**
Firstbaseman-DH

vs RHP		RISP		vs LHP
0-5	HR*	0-4	HR*	0-5
--	3B	--	3B	--
6-9	2B	5-7	2B	6-12
10-21	1B	8-21	1B	13-23
22-35	BB	22-39	BB	24-32
--	HBP	--	HBP	33-34
36	ROE/PO	40	ROE/PO	--
37-51	SO	41-55	SO	35-50
52-58	GO-1B	56-60	GO-1B	51-54
59-67	GO-2B	61-67	GO-2B	55-61
68	GO-P	68	GO-P	62
69-72	GO-SS	69-71	GO-SS	63-67
73-75	GO-3B	72-73	GO-3B	68-70
76-83	FO-RF	74-81	FO-RF	71-81
84-92	FO-CF	82-92	FO-CF	82-92
93-96	FO-LF	93-96	FO-LF	93-96
97	LO-2B	97	LO-1B	97
98	ROE/LO	98	ROE/LO	98
99	BK/WP	99	BK/WP	99

CESPEDES

Bats: R — Grade C37 — Throws: R
BR M — SBC 77 — SBO D — SHC N
Arm E — Yoenis — RG Neu — EC 6
INJ 82E — **CESPEDES**
Leftfielder

vs RHP		RISP		vs LHP
0-2	HR*	0-3	HR*	0-4
3	3B	4	3B	5
4-9	2B	5-11	2B	6-8
10-25	1B	12-26	1B	9-17
26-29	BB	27-34	BB	18-26
30	HBP	35	HBP	--
31-32	ROE/PO	36	ROE/PO	27
33-51	SO	37-53	SO	28-50
52-55	GO-1B	54-57	GO-1B	51-53
56-61	GO-2B	58-61	GO-2B	54-58
62	GO-P	62	GO-P	59
63-69	GO-SS	63-68	GO-SS	60-66
70-75	GO-3B	69-73	GO-3B	67-72
76-79	FO-RF	74-77	FO-RF	73-77
80-88	FO-CF	78-87	FO-CF	78-87
89-96	FO-LF	88-96	FO-LF	88-96
97	LO-2B	97	LO-1B	97
98	ROE/LO	98	ROE/LO	98
99	BK/WP	99	BK/WP	99

NAPOLI

Bats: R — Grade B40 — Throws: R
BR M — SBC 59 — SBO D — SHC 39
Mike — RG Neu — EC 5
INJ 53C — **NAPOLI**
Firstbaseman

vs RHP		RISP		vs LHP
0-3	HR*	0-1	HR*	0-2
--	3B	--	3B	--
4-7	2B	2-5	2B	3-7
8-19	1B	6-13	1B	8-23
20-32	BB	14-31	BB	24-43
33	HBP	32	HBP	44
34	ROE/PO	33-35	ROE/PO	--
35-62	SO	36-62	SO	45-68
63-64	GO-1B	63	GO-1B	69
65-67	GO-2B	64-67	GO-2B	70-72
68	GO-P	68	GO-P	73
69-73	GO-SS	69-73	GO-SS	74-78
74-77	GO-3B	74-77	GO-3B	79-81
78-80	FO-RF	78-80	FO-RF	82-84
81-88	FO-CF	81-88	FO-CF	85-91
89-96	FO-LF	89-96	FO-LF	92-96
97	LO-2B	97	LO-1B	97
98	ROE/LO	98	ROE/LO	98
99	BK/WP	99	BK/WP	99

NAVA

Bats: Both — Grade C38 — Throws: L
BR M — SBC 66 — SBO D — SHC 85
Arm E — Daniel — RG Neg — EC 5
INJ 61C — **NAVA**
Rightfielder-LF-1B

vs RHP		RISP		vs LHP
0	HR*	0-1	HR*	--
--	3B	--	3B	--
1-6	2B	2-5	2B	0-2
7-25	1B	6-23	1B	3-14
26-33	BB	24-34	BB	15-20
34-36	HBP	35-38	HBP	--
37-38	ROE/PO	39	ROE/PO	--
39-56	SO	40-54	SO	21-47
57-61	GO-1B	55-58	GO-1B	48-51
62-68	GO-2B	59-65	GO-2B	52-56
69	GO-P	66	GO-P	57
70-73	GO-SS	67-71	GO-SS	58-66
74-75	GO-3B	72-75	GO-3B	67-72
76-83	FO-RF	76-82	FO-RF	73-77
84-92	FO-CF	83-90	FO-CF	78-87
93-96	FO-LF	91-96	FO-LF	88-96
97	LO-2B	97	LO-1B	97
98	ROE/LO	98	ROE/LO	98
99	BK/WP	99	BK/WP	99

BRADLEY

Bats: L — Grade D32 — Throws: R
BR M — SBC 89 — SBO D — SHC 24
Arm E — Jackie — RG Pos — EC 3
INJ 43C — **BRADLEY**
Centerfielder-OF

vs RHP		RISP		vs LHP
--	HR*	--	HR*	0
	3B	0	3B	1
0-2	2B	1-7	2B	2-7
3-15	1B	8-19	1B	8-20
16-23	BB	20-27	BB	21-26
--	HBP	--	HBP	27-29
24	ROE/PO	--	ROE/PO	--
25-53	SO	28-61	SO	30-57
54-58	GO-1B	62-66	GO-1B	58-61
59-65	GO-2B	67-71	GO-2B	62-68
66	GO-P	72	GO-P	69
67-71	GO-SS	73-76	GO-SS	70-73
72-75	GO-3B	77-78	GO-3B	74-75
76-82	FO-RF	79-86	FO-RF	76-83
83-90	FO-CF	87-93	FO-CF	84-92
91-96	FO-LF	94-96	FO-LF	93-96
97	LO-2B	97	LO-1B	97
98	ROE/LO	98	ROE/LO	98
99	BK/WP	99	BK/WP	99

BOGAERTS

Bats: R — Grade C33 — Throws: R
BR M — SBC 39 — SBO D — SHC 89
Xander — RG Neu — EC 8
INJ 35B — **BOGAERTS**
Shortstop-3B

vs RHP		RISP		vs LHP
0-1	HR*	0	HR*	0-2
--	3B	--	3B	3
2-5	2B	1-4	2B	4-10
6-20	1B	5-13	1B	11-24
21-26	BB	14-20	BB	25-30
27	HBP	21-22	HBP	31-32
28-29	ROE/PO	--	ROE/PO	--
30-55	SO	23-43	SO	33-49
56-58	GO-1B	44-46	GO-1B	50-53
59-63	GO-2B	47-53	GO-2B	54-58
64-65	GO-P	54	GO-P	59
66-72	GO-SS	55-62	GO-SS	60-66
73-78	GO-3B	63-68	GO-3B	67-72
79-82	FO-RF	69-73	FO-RF	73-77
83-90	FO-CF	74-84	FO-CF	78-87
91-96	FO-LF	85-96	FO-LF	88-96
97	LO-2B	97	LO-1B	97
98	ROE/LO	98	ROE/LO	98
99	BK/WP	99	BK/WP	99

VAZQUEZ

Bats: R — Grade C37 — Throws: R
BR M — SBC 0 — SBO N — SHC 74
AR -25 — Christian — RG Neu — EC 5
INJ 79E — **VAZQUEZ**
Catcher

vs RHP		RISP		vs LHP
--	HR*	0-1	HR*	--
--	3B	--	3B	--
0-4	2B	2-8	2B	0-3
5-21	1B	9-20	1B	4-14
22-30	BB	21-34	BB	15-28
--	HBP	--	HBP	--
31-32	ROE/PO	35-36	ROE/PO	--
33-48	SO	37-41	SO	29-46
49-50	GO-1B	42-46	GO-1B	47-51
51-55	GO-2B	47-53	GO-2B	52-56
56	GO-P	54	GO-P	59
57-64	GO-SS	55-62	GO-SS	58-66
65-69	GO-3B	63-68	GO-3B	67-72
70-74	FO-RF	69-73	FO-RF	73-77
75-85	FO-CF	74-84	FO-CF	78-87
86-96	FO-LF	85-96	FO-LF	88-96
97	LO-2B	97	LO-1B	97
98	ROE/LO	98	ROE/LO	98
99	BK/WP	99	BK/WP	99