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THE INTRINSIC VALUE OF AK

Most players inherently understand that AK is a strong hand. But how strong is it really? How often are we dealt AK? How does it tend to hit flops? How does AK retain equity when hitting and missing?

This chapter will explore and answer these questions.

Keep in mind that our goal is NOT to memorize all of these percentages down to the hundredth decimal place. Our goal is to get an intrinsic feel for how AK performs which in turn prepares us with realistic expectations.

HOW OFTEN ARE YOU DEALT AK?

While this knowledge is not particularly useful when choosing our exact lines at the table, it is a good idea to know how often we are dealt certain hands.

	AKs	AKo	Full AK
COMBOS	4	12	16
%-FORM	0.30%	0.90%	1.21%
You will be dealt AK about once in every 82 hands			

As a comparison, we are dealt AA 0.45% of the time.

In case you are curious, here is the likelihood that your AK will be dominated based upon how many players are dealt into the hand:

# OF PLAYERS DEALT IN	% CHANCE AK IS DOMINATED
2 (heads up)	0.5%
3 players	1.0%
6 players	2.4%
9 players	3.9%
10 players	4.4%

So even if your brain quickly recounts all of the times you were dealt AK and ran into a monster – you now know how rarely that actually happens.

DENSITY OF AK

When putting your opponent on a range of hands, it is often helpful to understand the density of AK in that range. Simply put, of the hands they are likely playing, what percentage of them are AK?

This information is incredibly useful when playing 3bet and 4bet pots, but we can also use this information when crafting lines against our opponent with other holdings.

OPEN-RAISING RANGE	% OF RANGE THAT IS		
	AKs	AKo	Full AK
77+/AK	6.3%	18.8%	25%
22+/AJ+/KQ	2.8%	8.5%	11%
22+/AJ+/KJ+/QJ/ATs/65s+	2.0%	5.9%	8%

22+/ATB/54s+/T8s+	1.5%	4.4%	**6%**
Top-30% Of Hands	1.0%	3.0%	**4%**
Top-45% Of Hands	0.7%	2.0%	**3%**

RE-RAISE RANGE	% OF RANGE THAT IS		
	AKs	AKo	Full AK
QQ+/AK	11.8%	35.3%	**47%**
TT+/AQ+	6.5%	19.4%	**26%**
99+/AJ+/KQ	4.0%	12.0%	**16%**
99+/AJ+/KQ/ A2s-A5s/64s-T8s	2.9%	8.8%	**12%**

CALL VS. RE-RAISE RANGE	% OF RANGE THAT IS		
	AKs	AKo	Full AK
TT-QQ/AK	11.8%	35.3%	**47%**
88-JJ/AJ+/KQ	4.5%	13.6%	**18%**
66-QQ/AJ+/KJ+/ATs/98s+	2.8%	8.5%	**11%**

Notice that as a range gets narrower, AK naturally makes up a larger density of that range.

When we identify this and have an idea what they would do with that AK when facing aggression, we can develop a massive preflop edge.

*If your opponent 3bet you with JJ+/AK, and you assumed they would **only** give your 4bet action with KK+, how often are they folding to your 4bet?*

Complete this exercise when you are holding two blank cards, AK, 77, and A8s.

AK AND BLOCKERS

Strong players have a solid grasp on combos and blockers. This technical knowledge helps them craft lines and optimize in spots where most players are simply guessing.

When we hold AK, be it suited or unsuited, we naturally reduce the ability for our opponent to hold hands like AA, KK, and AK.

Let us explore some common preflop ranges our opponents use and how our AK impacts those ranges.

OPEN-RAISING RANGE	COMBOS WITH NO BLOCKERS	COMBOS WHEN WE HOLD AK
77+/AK	64	51
AK reduces their starting range by 20%		
22+/AJ+/KQ	142	117
AK reduces their starting range by 18%		
22+/AJ+/KJ+/QJ/ATs/65s+	202	172
AK reduces their starting range by 15%		
22+/ATB/54s+/T8s+	270	233
AK reduces their starting range by 14%		
Top-30% Of Hands	398	345
AK reduces their starting range by 13%		
Top-45% Of Hands	606	525
AK reduces their starting range by 13%		

CALLING RANGE	COMBOS WITH NO BLOCKERS	COMBOS WHEN WE HOLD AK
22-JJ/AJ-AQ/KQ	108	96
AK reduces their starting range by 11%		
22-JJ/AT-AQ/KJ+/54s+	172	152
AK reduces their starting range by 12%		
22-TT/A9+/KT+/QT+/ A2s+/43s+/64s+/J9s-K9s	286	254
AK reduces their starting range by 11%		

RE-RAISE RANGE	COMBOS WITH NO BLOCKERS	COMBOS WHEN WE HOLD AK
QQ+/AK	34	21
AK reduces their starting range by 38%		
TT+/AQ+	62	45
AK reduces their starting range by 27%		
99+/AJ+/KQ	100	75
AK reduces their starting range by 25%		
99+/AJ+/KQ/A2s-A5s/64s-T8s	136	107
AK reduces their starting range by 21%		

CALL VS. RE-RAISE RANGE	COMBOS WITH NO BLOCKERS	COMBOS WHEN WE HOLD AK
TT-QQ/AK	34	27
AK reduces their starting range by 21%		
88-JJ/AJ+/KQ	88	69
AK reduces their starting range by 22%		
66-QQ/AJ+/KJ+/ATs/98s+	142	118
AK reduces their starting range by 17%		

This exercise can also be taken a step further. For instance, what if we knew our opponent would open-raise with X range and only give our 3bet action with Y range? If we held AK in that situation, it would be helpful to know how our hole cards would impact the outright folding frequency of villain.

> *Would this knowledge be useful if instead you held hands like A5s, KTs, and even QJo?*

We could continue creating chart after chart, but at the end of the day, your own exploration will take you much further. Download a free worksheet for this exercise at www.splitsuit.com/ak-blockers

HOW AK HITS FLOPS

It may come as a shock, but AK is going to miss the flop – OFTEN. Even though AK is a premium hand preflop, it still misses the flop almost two-thirds of the time.

But even knowing that, how does AK perform the one-third of the time that it does hit? Using Flopzilla, we can see what percentage of the time AK flops the following:

FLOPPED HAND STRENGTH	AKs	AKo	Full AK
QUADS+	0.02%	0.01%	0.01%
FULL HOUSE	0.09%	0.09%	0.09%
FLUSH	0.84%	0.00%	0.21%
STRAIGHT	0.32%	0.33%	0.33%
3 OF A KIND	1.35%	1.35%	1.35%
TWO PAIR	2.02%	2.02%	2.02%
TOP PAIR	28.96%	28.96%	28.96%
ACE HIGH	66.41%	67.24%	67.04%
FLUSHDRAW (2 CARD)	10.94%	–	2.74%
NUT FLUSHDRAW (1 CARD)	–	1.40%	1.05%
GUTSHOT	11.20%	11.35%	11.31%
FLUSHDRAW +PAIR	1.68%	0.56%	0.84%
FLUSHDRAW +GUTSHOT	1.47%	0.32%	0.60%
GUTSHOT +PAIR	1.47%	1.47%	1.47%
GUTSHOT +OVERCARDS	9.74%	9.88%	9.84%

The most common outcome with AK is that we will miss the flop entirely and be left holding Ace-high. After that, our most common hits include top pair and then gutshots.

Did you realize that AK misses this often? Did you realize that AK flops gutshots that often? Did you realize that AK flops monsters that rarely?

These tidbits informed the postflop chapters of this book to prepare you for spots that happen regularly (and heavily impact your winrate).

HITS, MISSES, AND EQUITY

It can be a bit black-and-white to only think about hits and misses. After all, our AK can miss and yet we still win the pot. Or our AK can hit a strong hand and yet we end up losing the pot.

In almost every instance, our AK will have some equity when we miss a flop against a range. And our opponent's range will almost always have some equity when our AK hits the flop.

Instead of exploring a bunch of AK vs. ranges vs. specific flops – let us rather zoom out and explore how AK performs against certain ranges AVERAGED over thousands of flops. To do this, we can use FlopFalcon (www.redchippoker.com/flopfalcon) and we will define a 'hit' as any pair (or better) or a draw with 8+ outs.

AK vs. 66+/AQ+/KQ/AJs		
(E.G. A NIT OPENS FROM EP AND YOU CALL THEIR RAISE)		
HITS VS. MISSES	HOW OFTEN THIS HAPPENS	AK HAS THIS MUCH EQUITY
BOTH HIT	**27%**	**73% EQUITY**
ONLY AK HITS	**4%**	**94% EQUITY**
ONLY RANGE HITS	**47%**	**27% EQUITY**
BOTH MISS	**22%**	**73% EQUITY**
OVERALL, AK HAS 52% EQUITY ACROSS ALL FLOPS		

AK vs. A 24% CALLING RANGE

(E.G. YOU OPEN-RAISE AND A RECREATIONAL PLAYER CALLS)

HITS VS. MISSES	HOW OFTEN THIS HAPPENS	AK HAS THIS MUCH EQUITY
BOTH HIT	20%	76% EQUITY
ONLY AK HITS	11%	95% EQUITY
ONLY RANGE HITS	38%	34% EQUITY
BOTH MISS	31%	77% EQUITY

OVERALL, AK HAS 62% EQUITY ACROSS ALL FLOPS

AK vs. 77-JJ/AQ/AJ/AKo/KQ/KJs/ATs

(E.G. AN ABC TAG OPENS, YOU 3BET, AND THEY CALL OOP)

HITS VS. MISSES	HOW OFTEN THIS HAPPENS	AK HAS THIS MUCH EQUITY
BOTH HIT	25%	76% EQUITY
ONLY AK HITS	5%	95% EQUITY
ONLY RANGE HITS	38%	31% EQUITY
BOTH MISS	32%	78% EQUITY

OVERALL, AK HAS 60% EQUITY ACROSS ALL FLOPS

One major thing to notice is that AK still retains a good chunk of equity even when it misses and our opponent hits.

Players who routinely play AK with the mindset of ***"I'm only to give postflop action with top pair or better"*** find themselves leaving tons of money on the table. That mindset results in an egregious folding-frequency that even bad regs can pick up on.

Here is one more important spot to visualize.

Say you open-raise, villain 3bets you, and you call. This is a common enough situation that exploring this spot a number of times and ways is beneficial. But if we make the assumption that villain 3bets with a depolarized range of 99+/AQ+, and we modify a 'hit' for villain to only include middle pair (or better) or a draw with 8+ outs, we see:

AK vs. 99+/AQ+		
(E.G. YOU OPEN-RAISE, GET 3BET, AND CALL)		
HITS VS. MISSES	*HOW OFTEN THIS HAPPENS*	*AK HAS THIS MUCH EQUITY*
BOTH HIT	**24%**	**70% EQUITY**
ONLY AK HITS	**5%**	**92% EQUITY**
ONLY RANGE HITS	**47%**	**26% EQUITY**
BOTH MISS	**24%**	**66% EQUITY**
OVERALL, AK HAS 49% EQUITY ACROSS ALL FLOPS		

Even against such a strong 3betting range, our AK retains almost 50% equity across ALL flops.

If the only takeaway you get from this book is that you should be folding your equity away less often, this book has paid for itself.

Seriously.