# Going Low: Part 4 

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In the fourth, and last, part of this series on making lows, we shall consider the chances of making lows and nut lows in Omaha high-low. Another important issue is splitting the low part of the pot when two or more players make the same low.

| hand | low | nut low |
| :--- | :--- | :--- |
| A-2-H-H | .365 | .248 |
| A-3-H-H | .365 | .138 |
| $2-3-\mathrm{H}-\mathrm{H}$ | .365 | .138 |
| A-2-3-H | .495 | .431 |
| A-2-4-H | .495 | .323 |
| A-2-5-H | .495 | .263 |
| $2-3-4-\mathrm{H}$ | .495 | .225 |
| $\mathrm{~A}-2-3-4$ | .598 | .555 |

The preceding table gives the probabilities for making a low and a nut low for certain types of starting Omaha hands. The symbol H is used to denote any card of rank $9,10, \mathrm{~J}, \mathrm{Q}$, or K. The other symbols represent the actual ranks. So a player who has been dealt A-2-9-Q has a probability of .365 of making a low, and a probability of .248 of making a nut low.

Let's look at other features of the table. At first glance, a reader might wonder why the probability of making a low is the same for $\mathrm{A}-2-\mathrm{H}-\mathrm{H}, \mathrm{A}-3-\mathrm{H}-\mathrm{H}$, and $2-3-\mathrm{H}-\mathrm{H}$. The reason is easy to see because the number of low ranks missing from all three of the hands is the same, namely, six. Thus, the chances of three or more of the missing six low ranks showing up in the board are the same.

The real difference between the three hands lies in the chances of making a nut low. There is more than a $40 \%$ decrease in the chances of making a nut low with A-3-H-H as compared with A-2-H-H. On the other hand, look how much better A-2-3-H is, when compared to A-2-H-H, with regard to making a nut low. Finally, there is a spectacular difference for A-2-3-4 with regard to nut low. Of course, that hand does not come around often.

Another feature of the table is that there is more information there than you might initially think. For example, a hand like A-2-2-H has exactly the same probabilities for making a low and a nut low as does A-2-H-H. This follows because the second deuce neither contributes nor detracts from making a low or a nut low. The number of missing cards of low ranks are the same for both cases. There is a difference between $\mathrm{A}-2-\mathrm{H}-\mathrm{H}$ and $\mathrm{A}-2-2-\mathrm{H}$, and that difference arises out of the fact the second 2 in a player's hand reduces the chances another player also has made a nut low. Let's move to duplicated lows.

A player holding A-2-H-H, where both H cards are of big rank, is facing other A-2 hands with the following probabilities: three other players also having A-2 has a probability of .0006 , two other players having A-2 has a probability of
. 035 , one other player having A-2 has a probability of .32 , and no other player having an A-2 is .64. Thus, $36 \%$ of the time, a player holding A-2 is facing one or two other players also holding A-2. That is a large proportion of the time and makes raising with such a hand problematic.

The preceding numbers are valid before any cards have been exposed or any betting has taken place. Once betting has taken place, there always is the chance that a player holding a weak A-2 may fold. So what happens to the probabilities when more information is available for our player holding A-2-H-H?

Suppose the board gives our player a nut low and there are no additional aces or deuces on board. Now the probability that three players were dealt A-2 is .0012 , the probability that two players were dealt A-2 is .053 , the probability that one player was dealt A-2 is .377, and the probability no one else was dealt A-2 is .57. The problem here is that those probabilities, which are exact, apply to what people were dealt before any betting or cards were exposed. If you are playing in a game where essentially no one folds an A-2-x-y hand before the flop, then those probabilities are close to the probabilities that you are facing oher nut lows after the river card.

The probabilities are a reasonable guide to whether you are going to be quartered, or worse, at the end. This makes reading other players very important in high-low games. One of the most satisfying plays to make in Omaha high-low is to be holding the nut low and successfully put the remaining two opponents on high, so that you raise and reraise and smile as you collect one-half of the pot.

