WHAT THE NUMBERS MEAN

The analysis reviews the past performances of each entrant on the race card and produces the following:

Form Cycle: This four-character form rating looks at the horse's last two races and recent workouts to form a rating (+ is good, - is generally indicative of a horse declining in the form cycle, U means the category is not ratable, and N means the rating is Neutral) in four categories, as described in detail in William Scott's book "How Will Your Horse Run Today?" (consult the book for complete detail on the ratings):

First Character: Recency

Looks at the number of days since the last race and both the length and speed of recent workouts.

Second Character: Closeness to Pace

Looks at how close a horse stayed to the leaders in the last race as a sign that the horse is at the peak of its form cycle.

Third Character: Stretch Run, Last Two Races

Looks for improvement or decline in the time of running the stretch as a sign of whether the horse is improving in form or declining.

Fourth Character: Stretch Run, Last Race

Looks for a horse that was improving its position relative to the other horses or declining its position in the last race.

Recent Turn Time Form: The result ranges from --- to ++. A - is earned by no finish close to the leader combined with worsening turn times. A + is earned by improving turn times. Turn time is the time from the 1st call to the 2nd call. While other factors, such as recent workouts, previous racing patterns, and a serious decline in the last two races, can be used to rate form, this result can act as a serious "heads up" to be reviewed.

--- No finish closer than 9 lengths behind, last 4 races.
Turn time worse in last race than previous race.

-- No finish closer than 9 lengths behind, last 3 races.
Turn time worse in last race than in previous race.
Turn time worse in next to last than in previous race.

- No finish closer than 6 lengths behind, last 4 races
or 7 lengths behind in last 3 races.
Turn time worse in last race than previous race.
Turn time worse in next to last than in previous race.

+ Turn time improved in each of last two races.

++ Turn time improved in each of last three races.

Turn time is the time from the first call to the second call.

Condition: Number of days since the last race. Clearly, other factors play an important role in condition, but any time this number exceeds 30-40 days, you'll want to check for recent workouts or other returns from a layoff.

After the numbers of days since the last race and separated by a hyphen is the number of workouts since the last race. If it has been more than 21 days since the last race, it's the number of workouts in the last 21 days.

Class: Class is based on races run within a user-selectable number of days. The program's default is 270 days and we recommend keeping this in the range of 200-360 days when you set your preferences.

Each horse receives a Numeric Class rating and a Descriptive Class rating.

The Numeric Class rating is computed according to the preferences you set. First, a value is set for each race within the prescribed time frame. Generally speaking, the winner of a Grade I race would

receive a Numeric Class rating of 100.0, while the winner of a $10,000 claiming race would receive a Numeric Class rating of 84.0. Each step up or down the class ladder is worth 1 point. Races for statebreds receive a lower class rating than non-restricted races. Races are also adjusted for sex, age, and earnings/wins restrictions.

The Descriptive Class rating is based only on best finish and is computed as follows:

> If today's race is a Maiden race: Class is defined as the closest finish (lengths behind) in the highest class. Maiden Special Weight races are higher than any Maiden Claiming races. All claiming and allowance races are higher than Maiden races.
>
> If today's race is a Claiming race: Finished within 1 length in any non-Maiden race.
>
> If today's race is an Allowance or Stakes race: Finished within 3 lengths in an allowance race or won a claiming race. Maiden claiming races not included.

For claiming races, the Descriptive Class value of the race is the claiming price. For allowance and stakes races, the Descriptive Class value of the race is set at 150% of the purse. All graded stakes races are rated higher than any other races, regardless of purse.

The Descriptive Class column on the report can have the following entries:

> If today's race is a Maiden race:
>
> MSWxx: The horse's best finish is in a Maiden Special Weight race (see beaten lengths column for how close to wire). xx shows the purse in thousands.
>
> M xx.x: The horse's best finish is in a Maiden Claiming race at claiming price xx.x (see beaten lengths column for how close to wire).

If today's race is a non-Maiden race:

MdSpW: The horse's best class finish was in a Maiden Special Weight race.

MdClm: The horse's best class finish was in a Maiden Claiming race.

xx.x: The horse had a class finish in either a Claiming, Allowance, or Stakes race and earned this value.

Gn: The horse earned a class value in a graded stakes race (grade n).

The number in parentheses after the Descriptive Class entry indicates which previous race was used to compute best class finish (1=last race).

Beaten Lengths: The Beaten Lengths column is only used in Maiden races, to show how close the horse finished to the winner in its best class finish.

See Ten Steps to Winning by Danny Holmes for an explanation of why that author feels best class finish is a stronger measure of maiden progress and readiness than pace or other measures.

Speed Points: For non-maiden races, the program computes this measure of early speed, first developed by Bill Quirin.

The Speed Points are computed using three of the last five races, starting with the most recent but throwing out any sprint in which the horse was neither in the top three nor within six lengths at the first call.

The Speed Points rating varies from 0 (either generally near the back of the field or no qualifying races) to 8 (wants to lead or be in the top 3 and within a neck of the lead). Usually, any rating difference of two or more points yields a significant difference to the first call.

Starting with Version 3.5, an adjustment is made for runners with fewer than three qualifying races (using Quirin's adjustment).

Pace: The program computes an Average Paceline by looking at the pacelines for the last four races, then using the preference set by the user. The program does not count races on turf if today's race is on dirt (and vice-versa). It also doesn't consider major distance changes (over 2 furlongs). It will use a fifth race if one of the first four doesn't qualify. It stops whenever there's a break of over 45 days without a race.

The Average Pace is a velocity figure in feet per second, computed using the total distance in feet and :

Leader's time at Call 1
+ Leader's time at Call 2
+ Finish Time of Horse being rated
+/-Track variant factor
+/-Specific track adjustment factor

Finish time is computed by taking the time of the race and adding .2 seconds for each length the horse being rated finished off the pace. If the best paceline is computed for a race when the horse finished more than 6 lengths behind the winner, the paceline is marked with an *.

The track variant factor (TVF) uses the variants published by Bris, Axcis, and ITS. Each uses a different process for arriving at the track variant. See their documentation for a further explanation of their individual methods. This factor is used to adjust for the day-to-day differences in track surface and weather at a track.

A smaller (half of the prorated amount) track variant factor (TVF) adjustment is made to the time for the first call and second call.

The specific track adjustment factor is used when a previous race was at a different track than today's race and is based on the adjustments published by American Turf Monthly in April 2002. It adjusts the previous race as if it were run on today's track.

One final calculation is made to adjust pacelines when the previous race was run at a different distance than today's race, adjusting the shape of the previous race to fit the shape of today's race by a comparison to National Pars for the two distances. The Pars used in this release of the program are the 1996 National Pars, indexed by length of race and class value of race. If the relationship between the Pars for the track you are handicapping differ significantly from the relationships in the National Pars, you may need to adjust some pacelines accordingly.

Although these National Pars are now six years old, we have not found the distance relationships to change in any significant way. Steve Davidowitz is one author among many who have suggested that the thoroughbred breed needs more endurance added, possibly by adding some Arabian influence. If that is done, it will be some years before it has any impact on the current distance relationships.

Calculations are also provided for Early Pace and Sustained Pace. Note that these are not necessarily the "best" early or sustained numbers. Rather, they are the Early Pace and Sustained Pace for the same race or races used to compute Average Pace. Both are expressed as velocities in feet per second, with Early Pace = pace to the second call and Sustained Pace = average of early pace and late velocity.

For a detailed understanding of pace and the methodologies used to compute pace, an excellent reference is Modern Pace Handicapping by Tom Brohamer.

The number in parentheses after the pace entry indicates which previous race had the best Average Pace (where 1 = last race).

Some of the pace entries are also followed by a symbol:

d = the paceline shown is for a date that is out of date because the horse had no races in the last 45 days.

= there were fewer than four possible pacelines to review using our critieria.

* = horse finished more than 6 lengths off the pace in race used for pace rating.

The system also computes projected split times for each call for those who want to plan the shape of the race in their trip handicapping, with early time (T1 = time to the first call), turn time (TT = time from the first to second call), and stretch time (CL = time from the second call to the end of the race). The split times are for the race or races used to compute the Average Pace shown, and allow the handicapper to easily compute some of the other types of pace ratings favored by certain handicappers.

Style: The program looks at the horse's running style in successful efforts (finish in the top four or within 5 lengths), then rates the horse as Early, Presser, or Sustainer (or a combination of two).

Early: Typically leads or is within 1 length for the first 2 calls.

Presser: Stays within 3 lengths of the leader and improves position between the first and third call.

Sustainer: Typically not in the top half of horses at the first call, some improvement to second and third call, and best improvement to finish.

Note that only better finishes are used to compute style. This allows the handicapper to project the trip in today's race, assuming that all trainers and jockeys will want their horse to run its most successful style.

It's important for beginning handicappers to understand that just because a horse has an E style doesn't mean it will take the early lead in today's race... it means the horse probably wants to take the early lead and failure to be able to do so will probably result in the horse overextending early and running very poorly later.

The numbers generated by this program do not by themselves point to the winning horse. The successful handicapper knows how to use the numbers as part of a process. While Kanga Investments does not

recommend or endorse specific books on handicapping, we do recommend that users of this program read one or several books on handicapping, with an emphasis on using pace and on understanding class and form.

Performance Clues: The program looks at the last three races for clues that suggest improving condition and performance. These clues cannot be used alone without further analysis but serve as flags to check a horse as part of the process of identifying potential long shots whose pace and class would otherwise not warrant them.

Last: I = Improving position at every call (lengths behind) after the first call in the last race.

Z = Improved position (lengths behind) from third call to finish after showing improvement between first and second call, then falling further off the pace between the second and third call.

C = Closed to best position (lengths behind) at finish after falling further behind at each call.

Diagonal: Some handicappers consider the “double diagonal” as a clue that a horse is rounding into top form. It measures position in the field, not lengths behind.

Diagonal #1 is improvement from 2nd Call of Second Previous Race to 3rd Call in First Previous Race to Final Call in Last Race.

Diagonal #2 is improvement from 1st Call of Second Previous Race to 2nd Call in First Previous Race to 3rd Call in Last Race.

D = Double Diagonal - improving pattern in both Diagonals

Sn= At least five points of Beyer Speed improvement over the previous race, with n indicating the number of successive times it is accomplished.

Trainer Moves: Clues that cumulatively suggest that the trainer might be preparing the horse for a big race. The printout indicates how many of the following apply:

Jockey change for current race

Distance change of over 1-1/2 furlongs

Odds that have gotten worse in each of last 3 races

Class drop, this race versus last

2 “Z’s” in last 4 races (see Z’s under Performance Clues)

Fast longer workout (under 12 seconds per furlong) for 5 furlongs and more within 15 days and after last race

Lasix: Ln = number of consecutive times on Lasix including today’s race.

Performance Class: A rating of how a horse performs vs. the class of the races in which it was entered. The higher the number, the better. The number considers four factors using up to 10 past performances:

Number of horses entered in the race
Position at the second call.
Position at the finish.
Class rating of the race.

See Total Victory at the Track by William Scott for a complete description of the calculation method and the rationale for using this powerful handicapping tool.

We’re in an era where pace and speed ratings are readily available from a variety of sources. That makes it tougher than ever to find a “hidden pace advantage” and turn it to profit. But Performance Class is almost impossible to hand-calculate. So, watch this number for some great overlays and longshots.

Kanga Power Number: This number is developed using a weighted value of class number, average pace, performance class, turn time, form cycle, turn time form, Z's, and DD's. The system has a default weighting that varies for sprints, routes, and maiden races. The user can change each of the weightings in the preferences section, with options ranging from don't use the factor to minimizing the weighting by a factor of 1/4 to maximizing the weighting by a factor of 3.

The user can also choose whether or not to allow the KPN to vary according to the differing running styles of the horses entered in the race.

The Kanga Power Number represents the horse's percentage chances of winning a race. When printing the Detail Race Report, the KPN is also converted to Kanga Odds, the odds of the horse winning the race based on the Kanga Power Number.

11. KANGA POWER NUMBER AND KANGA ODDS

When you set your Pace and Class preferences, you are setting parameters that help the software develop a projected running line for today's race. That running line, along with the form factors and other performance hints printed on the summary line for each horse, is the basis for computing the Kanga Power Number.

The software develops six primary factors based on:

Class number
Average pace
Performance class
Turn time
Form (using both the form cycle and the turn time form)
Performance hints (Z's and DD's)

These factors are combined to create the Kanga Power Number in differing ways depending on the type of race being analyzed:

Non-maiden Sprints: fairly balanced combination of the six factors.

Non-maiden Routes: heavier weighting on class number, performance class, and form. Less weighting on the other three.

Maiden Races: Predominant weighting is class number and form. Less weighting on performance class (in many races, few entrants have the ten past performances this factor looks at). Very little weighting on pace, turn time, or performance hints.

The formulas for combining these six factors were developed by studying nearly 500 races run at a variety of tracks in the spring of 1998. A summary of the results obtained in that study is shown in Appendix D of this manual.

As the user, you can impact how these weightings are combined by changing your preferences. If you set all the Odds Weighting preferences to the default setting of 5, you are using the default formulas developed based on the study. Changing the weighting to a higher number (maximum is 10) increases the weighting of that factor. Changing the weighting to a lower number decreases the weighting of that factor. Changing the value to 0 means you don't want that factor used at all.

It is strongly recommended that you make small changes in the weightings, trying 6's and 4's before moving further to the extremes.

IMPORTANT STATISTICAL NOTE: Because of the way these factors in some cases vary exponentially, changing all the factors by the same amount will change your overall calculations. Thus, changing all factors to 6 (or some other number) will produce different results than setting all factors at 5. Center the factors at a setting of 5, then move those factors you want to increase in importance upwards and those you want to decrease in importance downwards.

Once the Kanga Power Number (KPN) is calculated for each horse, the Kanga Odds (KO) for each specific horse are calculated using the formula:

KO = KPN / sum of the KPN’s (100)