LL-STAR 12 featuring Sports Illustrated Games



In This Issue:

SPEED CIRCUIT

1957 KENTUCKY DERBY

And the second

More PAYDIRT

Basketball, Baseball, All kinds of stuff

Plus a UNIQUE Contest!

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ALL-STAR REPLAY

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The Dugout

Hello again, Are you sure you won't need that five dollars? Well, it's too late now. But, seriously, folks, I'm glad you decided to send in your contributions, because this issue really is worth it.

To begin with, we've got a great article on SPEED CIRCUIT, along with two new (and very challenging tracks). The tracks themselves have attracted a lot of interest among the staff here, and just last week the whole gang was hunched over Kyalami, watching driver after driver spin out at the last turn at Kyalami. If you've played SPEED CIR-CUIT, then I think you will agree with my contention that it is one of the very few games, sports or war, where pure strategy determines the winner.

Everyone in SPEED CIRCUIT starts out with the same potential, which is then used to design a car which should suit the track being raced on. And once the race starts, everything that happens is a result of the player's own decision, not the whims of chance, Rolling the dice seldom occurs unless a driver is already desperate and needs to gamble. or when he makes a serious error. In the race last week, one of the six drivers (whom I will not name, but who bears a remarkable resemblance to the editor of a very well-known sports game magazine) came from the sixth starting position (the worst) to win the race at the last turn, without once rolling the dice (all of his rivals did, including one of our ace designers who spun out at least once per lap in his attempts to get back into the race).

If you have the game, I highly recommend these two new tracks. If by some incredible stroke of bad luck you neither have the game nor a good friend who will give it to you for your birthday ...your course is obvious. No, I don't get a commission.

We've had some questions from the audience about how different our new versions of SPEED CIRCUIT and WIN, PLACE & SHOW are from the original. Actually, the differences are fairly minor. In both games, the rules have been clarified, and in both games new things have been added (such as the Party and Fund-Raising versions of WP & S, and the various tables in SC). If you already have the games, I would suggest ordering the new rules (and for SC the Performance Chart pad), all of which are \$1.00 each.

News from Gaming Central: Those of you who ordered the new PAYDIRT charts should be interested to hear that we will be offering a new set of college charts sometime this summer. At this point, there should be about 20 teams, 15 of which will be acknowledged national champions from various years since 1940 or so, and 5 more which will be extraordinary in some way (terrific defense, and so forth). There should be more about this in the next issue. The 1977 season PAYDIRT charts will absolutely be available by the time the next pro season begins. This year we had seemingly endless problems with them, in large part because this was the first time Avalon Hill ever did the charts (SI did all of the old ones), and everybody sort of learned as they went along. Incidentally, be sure to look on page seven for two little errors that escaped me the fifteen times I proofread the rules.

Right now we're working on updating the SI baseball game. Apparently my mention of this fact in the first issue caused some anticipatory excitement, because several people ordered the new cards, even though we haven't even begun them yet, much less put them on sale. At this point, it looks like we will, at the very least, have last year's playoff teams to offer by the time the baseball season begins, and if there is enough interest the list will be expanded. It is my personal hope to be able to offer all of the teams for sale, but that depends in large part upon the dictates of economics and the interest displayed by yourselves. We also will be eventually adding the 300 or so all-time all-stars who were in the game of that name, putting them on individual cards with photos, too.

Speaking of baseball, a league is beginning here at Avalon Hill to test out some ideas which should have great implications for owners of BASEBALL STRATEGY. Don Greenwood, editor of our wargaming mag. THE GENERAL, has come up with a system for transforming real players stats into BASEBALL STRATEGY terms. If it works out, then this system will be sold with the game (and offered separately to those who already have the game, of course).

The results of our first contest are more or less completed. As of today, we have 99 winners (out of 100) from a total CONTINUED ON PAGE **32**

THE GENESIS OF FOOTBALL STRATEGY---Part II "Blue Tango ... Love in Bloom

By Thomas N. Shaw, Designer

Tom Shaw, designer of FOOTBALL STRATEGY and all-time winningest coach of the game (do you suppose there's any correlation there?) returns in this absolutely final, last installment of his controversial FS series. In this article he reveals his formula for success or so he claims.

It is late 1959.

The Colts and Green Bay are locked in one of those epic struggles so reminiscent of that era of professional football.

I well remember a crucial play. The Colts are third and one on the Packers' two. Back goes Unitas . . he throws complete . . . for 35 yards.

"That does it," erupts Harry Filbey, my opponent. Throwing his Defense Cards against the wall in disgust, he shouts, "throwing a long pass just two yards from the goal simply isn't realistic. Flankers do not scramble 12 rows up into the grandstand to catch a TD pass."

I was beginning to see his point. Especially since that touchdown made the score 56 to 48. And it wasn't even halftime. However, game designers are not wont to see their inventions torn asunder. Ego and all that, you know.

"You should know better than to blitz in that situation," I replied rather weakly. Harry has one helluva good looking wife, I thought to myself. He must be peeved because I show up at his home for these playtest sessions, sometimes even before he gets home from work.

"And another thing, Mr. Shaw, how come you show up here before I even get home from work? Most people show up late. You always show up early," he went on.

"Harry, old buddy, you and I are going to make this the most realistic board game on football ever designed," I echoed defensively, "and getting psyched up well before a game is part of it. I even ask your loving wife to put some football music on the record player" "Blue Tango. . Love in Bloom . . . Sentimental Journey . . they're football songs?" asked Harry incredulously

"Mmmmm," I reply innocently, "let's get back to this playtest problem. I think you have a very justifiable beef, Harry. Got a solution?"

"Well . . . yes, Tom. Why not simply rule out the use of long pass plays on close in situations?"

"Excellent suggestion, Harry . . . like, say, don't allow the use of Long Pass Plays 17 through 20 from within, oh, the 20yard line, perhaps. We make a great team, Harry." (All three of us, I smilingly thought to myself!)

"It's scenarios like this from whence great design breakthroughs come, right, Harry," I cajoled. Thusly cajoled, Harry picked up his cards and we proceeded with the playtesting.

And why not? This was just one example of Harry's indefinable genius at spotting design problems. Here's other examples!

Right off, in fact, he noticed that using a miniature football just wouldn't do, particularly since it kept rolling off the prototype, into my lap, occasionally onto the floor and under the sofa.

Also to Harry's credit was his astute observance regarding the 10-yard marker. It only measured 9 yards. This, he felt, may have accounted in part to some unusually high scores. The truth of the matter is, I noticed it too—but wanted Harry to get the credit. The better to make him feel important to the project.

To a professional designer, all this may sound absurd (read stupid). However, I was a neophyte at this game designing business, and we are, at this point, just starting out with the playtest phase.

There comes a point, however, when one playtester can only contribute so much. Despite Harry's inestimable help, it was necessary to test with as many different people as possible. The game was evolving more and more as a contest of personalities rather than a simulation of the real thing. For one, many complained that in a real game an offense play doesn't produce the same result every time against a given defense. But my attempt to offer variables within this framework, such as a 6-digit die-roll table, took away the essence of the personality by-play that was making this game so much fun to test! Indeed, what started out to be an honest attempt to mirror real life would end as a somewhat abstract portrayal of football that was simply a helluva lot of fun to play.

Finding new playtesters wasn't all that easy, believe it or not. I naturally turned for aid to my fellow teammates from the Wildwood Athletic Association, with whom I had enjoyed great athletic rapport in both baseball and flag-football during many seasons past. Intellectual pursuits are not generally a hallmark of ballplayers. And Wildwood was no exception. While many of my teammates knew not the meaning of the word "fear" (some couldn't even spell it), they were mentally uncomfortable in the realm of board gaming. Only one deigned to help. Our middle linebacker, Dave Boring, jumped at the opportunity.

The difference in results between my playtests with Dave and Harry were like night and day. It further convinced me that I was on the right track with the game's design. Word spread and others offered to help in the playtesting. This led to more than 100 playtest games preceding the final prototype that went to market in the Fall of 1960, almost a year after the idea was first conceived.

First marketed to the public in a blue and white tube for \$3.00, Football Strategy is now in its 4th version and 12th printing. Version #1, published by the Strategy Game Company, not Avalon Hill, included no dice. The charts were somewhat unbalanced in favor of a short passing game. And because the kicking game was belabored, version #2 inserted the 1-die chance element, with adjustments to the offense charts boasting the appearance of a Razzle-Dazzle (Play #16) which offered the possibility of a TD from anywhere on the field at any one time. This flat box version sold for \$3-5, and went to \$10 when converted to the bookcase package, version #3, This version incorporated two additional sets of Play Charts plus the "Football Widow's Handbook," an intellectual spoof aimed at the distaff side of the chronic football nut. One set of the added play charts were balanced in favor of a running game, the second set in favor of an aerial game. Very few of the Avalon Hill League members opt for either set, feeling that the Pro-Style is the best bet in the long run. I concur. Finally, version #4 reflects changes in the Field Goal/Extra Point table to correspond with the movement of the goal posts back to the end-line. In addition, the Long Gain runback on kickoffs has been modified. A new cover photo and Sports Illustrated imprimatur grace a beautiful new bookcase package.

So much for background. Let's get to the meat. "How can I win consistently at *Football Strategy?*" is what you really want to know.

So why ask me? I haven't won a championship yet, even after 4 years of play in our own Avalon Hill League here in Baltimore.

(Ed: Shaw's statement is somewhat misleading. While it is true he has hatchered several attempts to win a Superbowl, and he blew a championship game in a Baltimore Advertising League. Shaw did win tournaments recently in Detroit and New York, the latter considered the national championships held annually at Origins.)

The fellow best suited for this is Don Greenwood, Senior Vice President at Avalon Hill and winner of two Superbowls and one Origins National Championship.

For competitive reasons, it would be unfair to ask him to part with his secrets (even though it could mean 27 more subscriptions to Replay: Ed.) But having opposed him many times, I am going to unfold what I think he thinks others are thinking when he thinks up a particular play.

Certain players have been known to resort to gambits just short of the bizarre. Like, for instance, one AHFSL franchise holder brings a rubber duck to the game table!

A former franchise holder never played. He hired a co-worker to play while he, and a third member of the triumvirate, kept detailed notes and scouting reports. A computer buff and another former franchise holder, charted all plays during the course of a game, programmed them for instant feedback, and proceeded to lose his first six games.

Other franchise holders who also kept records, albeit not as detailed, found success equally elusive.

An excessive number of missed extra points (a die roll of 6) that cost one franchise holder enough games to lose a division title, caused him to spend the off season in search of a five-sided die.

Players of the calibre of a Greenwood, however, don't have to resort to such techniques. He approaches each opponent with a simple, "Okay—who's the next turkey?", lending some credence to the importance of a psychological edge. But the real secret to winning is in knowing the chart thoroughly. One habitual attendee of the Origins National Tournament, Pat McNevin from Minnesota, knows the chart so well that he never has to refer to it. He simply stares you in the face and spits out the calls in machine-gun fashion—by name yet, not by number. Small wonder he's done no worse than reach the finals in all three years since the tournament's inception.

As an aside, McNevin blew me out during the 1976 tournament with his precision-like aggressiveness. Last year in the 1977 tournament, we met again. He proceeded to run up a 16-0 first quarter lead. Then fell asleep, apparently from boredom. When he awoke, I had kicked a field goal with one minute remaining to win 20-19. My strategy, then, was to slow down to a deliberate pace. Anything to change the tempo, I thought. This apparently threw him off-stride, throwing the breaks my way. I had, just previous to McNevin's match, blown a 28-point 4th quarter lead, lucky to muster a 3-point win in sudden death.

(The 1978 national championships will be held at the University of Michigan, Ann Arbor, July 14-16. For info write: Detroit Metro Gamers. Origins 78, c/o Al Slisinger, 19941 Joan. Detroit, Michigan 48205-Ed.) It is significant to note, therefore, that each opponent must be treated individually.

Witness these extremes gleaned from records kept of every game played to date in the Avalon Hill League. The most total points per game (127) occurred in the first year; Atlanta 74, Los Angeles 53, yet these same franchise holders have also scored shutouts against equally impressive opponents. Philadelphia's 7 to 3 win over Minnesota is in our record book as the lowest scoring game. Records indicating best and worst offense averages, 36.0 and 12.9 points per game respectively, are quite extreme, as are the best and worst defensive averages of 12.9 and 40.1 points per game respectively. Yet, unlike many popular "stat" games, each team starts out even. There is no play-chart edge to either side. Why, then, the great divergence of results? In part, you are playing against the personality, not the person, which means you cannot go by any hard and fast rules. There are, however, certain guidelines dictated by the natural imbalances of many of the offense plays.

For one, there is safety in conservatism. In the broad sense, the chart is biased in favor of the player who gives ground grudgingly.

Frankly, it's not all that much fun playing a conservative person. On defense, you just know you're not going to catch him in many, if any, turnover plays. When his kind win, it's usually on your impatience. As the game progresses, he will look for you to break the conservative pattern and act, perhaps impulsively.

A common strategy is built into the trade off that exists between plays #6 and 17. A close study of #17 shows that it is the riskiest of all 20 plays. Mainly because of Defense I which produces a devastating interception, a call which in itself, has been the turning point of many a closefought league contest. This interception notwithstanding, play #17 is so very alluring, it's always worth a gamble and posts a nice gain against Defense D.

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ALL-STAR REPLAY

Compare the effects of these same two defenses, D and I, on play #6.

From just this one example, one can see that the essence of the strategy in this game is in the use of trade-offs of which there are many Some trade-offs developed by accident, but most by subtle design.

Another common example! Play #3 is frequently called for a variety of reasons it's nice against overuse of the blitz (15 yards against both C and H); and ideal for short yardage. Say it's 3rd and 2. Your opponent is looking for that easy 1st down (note the number of 2-yard gains for Play #3) so you slap him with Defense G—now it's 4th and 4 and he's got to kick. Neat ploy, eh? Unless, of course, he calls Play #20 which nets him 35 big one ...

Play #3 is also the focal point of a tradeoff against Play #4. In this instance, blitz defenses C & H are the key here. On occasions too numerous to mention, I've called Play #4, only to get nailed with a loss against Defenses C and H; Play #3 and get Defense G or F-never C or H. And when you get into this rut, no matter what you call it won't be right. Then you must simply change off until you feel the bad streak has run its course. That's when you go with Play #20. "When in doubt, call down-and-out," Greenwood intones. As for me, give me liberty or give me death (read Play #17). Let it forever be recorded that you cannot win if you don't go to Play #17. You've simply got to take the risk. All the important trade-offs focus on this play. Even Play #4 helps set up #17. Play #4 is a common first down call. That's why C is a nice first down defense—who wants to be second and 13? So why not, upon occasion, start off instead with Play #17 on first down.

Play #18 is also a good set-up call. Defense E, the most commonly called defense, earns you 30 yards. Against Defense F, however, you lose 30 on an interception. But it's to one's advantage to solicit Defense F calls in my opinion (good on Play #17 for the gallante and Play #15 for the chicken-hearted.) Many swear by Defense F, yet other equally successful players rarely, if ever, call it.

It's all in knowing when. To know when is to know the chart cold. That way, you will learn to optimize your calls. Unfamiliarity breeds poor play selection. For example, Play #8 is a dog. It can't do much more for you than Play #3. Yet you risk losing the ball. If your strategy is to lure the call of G, why not overcall Plays #3 and #9 instead. There is a time and place for Play #8, (although I can't figure out where at the moment).



Designer Tom Shaw thack to cameral shown moonlighting as department store mannikin while demonstrating FOOTBALL STRATEGY in top New York store whose name you'd recognize instantly

I'm not ecstatic over Play #11 either. It has its moments, however, like on 4th down and short yardage.

The beginner should not attempt to memorize the complete chart. One could get by respectably on just half the plays. That's only 50 gains and losses you have to remember.

The more advanced player pretty well knows the key results instantaneously. Instant recall allows one to mentally figure which plays offer optimum gains for a particular yardage need—which one has to do within 30 seconds in our championship games. (One draws a delay of game penalty for failure to call an offense play within 30 seconds.)

"But calling optimum plays, only, doesn't that make defending easier?" you may ask in your neophyte wisdom.

It does and it doesn't say I hedgingly. There is usually more than one optimum play to call for most situations. What I mean precisely is if you're 3rd and 12, don't call Play #12. Or call Play #15, not #13, if you need 14 yards. You are more likely to see an F instead of A and B. Considering that it's 3rd down, the interception at G isn't all that upsetting as you would probably have to punt anyhow on the next down. Of course, a really experienced player probably wouldn't even give you an F in that situation; which makes #9 just as optimum if not more so. The point is, there are certain situations in the game where you just have to be looking for specific defenses. I don't advocate guessing the defense all the time, but in key situations one usually

goes to the same call he's been successful with many times in the past. The secret is in remembering what that is.

At this point, you've probably been dying to know why I've bad-mouthed Play #8, especially when I'm the one who put the play into the game in the first place. Well now I remember! Play #8 is the "make them think I'm stupid" call. Be wary of such opponents.

The entire chart is graced with subtle imbalances, purposely designed to help players categorize opponents according to their personalities. Of the conservative person, it just isn't in him to take bold action or unnecessary risk. This knowledge can guide your defense card selection with a good degree of confidence. One opponent of mine was so conservative that I threw nothing at him but D and F an entire quarter and still he never scored.

I'm not advocating the opposite extreme either, but it doesn't hurt to show a bit of daring do, like Play #8, if only to con your opponent into thinking how unpredictable you are. I've even been known to throw out a couple #16's when the losses can least hurt. This gambit often curtails an opponent's use of Defense I, the bane of my existence.

A great quandary on defense is what to call when an opponent is around midfield. If he's long pass minded, you have to give him the gain that will put him within the 20 yard line, rather than have to worry about another long pass completion from within the 30.

Continued on page 35

1976 PAYDIRT! TEAM CHARTS HAVE ARRIVED!

by Dr. Thomas R. Nicely

The long-awaited updated Team Charts for the PAYDIRT! Pro Football game are now available from Avalon Hill at \$7.00 per set, including Rules, Legend, and Priority Chart. The new four-color charts are based on the results of the 1976 season, and charts for all 28 pro teams, including expansion entries Seattle and Tampa Bay, are included.

The new charts are specifically designed to give greater emphasis to skill and strategy than was present in past charts. At the same time, extensive playtesting has been devoted to insuring that each team performs according to its own level of ability whenever the players are of equal skill.

The rules have been divided into two sections, Basic and Advanced. The basic rules are a simplified (and modified) version of past PAYDIRT! rules; the advanced rules can be used in part or in whole, independently of the basic rules. Changes in the theory of design have allowed the elimination of certain artificial restrictions present in the old rules for example, the draw, screen, and medium, long and sideline passes may now be used at any time, from any point on the field, and as often as you like.

One advanced rule which we recommend very strongly is #1, concerning Team Selection and Point-Spreads. This is intended to compensate for the great range of team strengths present in the new charts, which could otherwise lead to some lopsided games devoid of interest to the loser. The idea is to force the players to, in effect, bid for the stronger team; the player with the stronger team would then have to win by more than this pointspread in order to demonstrate his clear superiority in the game. Even a one-sided game can then be exciting. To use the example given in the Rules, suppose Oakland is playing Tampa Bay and has been rated a 19-point favorite; even if Oakland leads 28-3 in the fourth quarter, the outcome (to the players) is still in doubt, since a Tampa Bay touchdown would beat the spot and deny the Oakland player a clear-cut victory.

As a further example of the strategy Advanced Rule #I can evoke, consider the following situation which occurred in the long-running (973 games) series between our two most persistent playtesters, whom we shall refer to as the Hare and

the Knave. It was Houston at the New York G, the Hare having Houston and the Knave receiving 4 points. With time running out, the Hare led 14-12 and had possession. Should she run out the clock (settling for a 5-5 draw in Rating Points) or go for the clinching score (which would give her a 10-0 sweep in Rating Points)? The impetuous Hare chose to go for broke-and hurled an interception which the Knave returned for a touchdown at the gun! Knave and the New York Gs win 19-14; the Knave wins 14-0 in Rating Points, and the Gotham fans tear down the goalposts! Alas, the Knave still is far behind in the series Rating Percentage, .561 to .690.

We will be happy to answer any questions you may have about the rules or

charts. Be sure to let us know about your results with, and opinion of, the new 1976 Charts and Rules!

Minor Oversight Department

The art department has made a supreme effort to minimize transcription errors in preparing the charts. There are, however, two errors of some significance in the final rules and charts: (1) In Advanced Rules #13, the references should be to Basic Rule VI, and not Basic Rule V as stated; (2) on the WASHING-TON Team Chart, the Special Block Option is missing (the letters SPBO in a red field should appear in the upper left corner of the defensive chart, as on the Pittsburgh, Minnesota, and Dallas charts).

HOW TO PLAY OLD PAYDIRT! CHARTS AGAINST NEW ONES

Since the 1976 PAYDIRT! charts include revised rules, and have slightly stronger offenses and defenses, many fans have inquired about the procedure to be used in case the new charts are played against one of the older charts. One recommended method is as follows:

(1) The 1976 rules are to be in force.

(2) Numbers in parentheses (or circles, on the 1969 charts) on the old chart defenses have the following priority: LOSSES have the same priority as (1) in red on the 1976 Priority Chart GAINS would overrule ordinary gains, losses, no gains and TDs, but would be overruled by a QT, INC, INT, PEN, or FUM.

(3) The old chart defense has the privilege of using a WILD-CARD DEFENSE, which operates as follows: the defense attempts to guess exactly which play the offense will run, by placing the play selection pawn on that offensive block (razzle-dazzle may be guessed, as well). If successful, the defensive result is (1) in red on running plays, an incomplete on all passing plays, and whichever of the two results applies on the razzle-dazzle. If unsuccessful, the result is "No Change."

(4) On the 1969, 1970, 1971 charts, and on the first edition (marked Copyright 1973) of the 1972 charts, the field-goal yardages are measured from the line of scrimmage to the goal post, on the end line. For a field-goal attempt to be successful with these charts, the yardage rolled would have to equal or exceed the line of scrimmage plus the ten yards of the end zone. Thus, an attempt from the 30 (line of scrimmage) would be successful only if the field-goal yardage was 40 or greater.

On the second edition (marked Copyright 1974) of the 1972 charts, the field-goal yardage is measured from the line of scrimmage to the goal line, as on the 1976 charts; field goal attempts would therefore be treated under the 1976 rules.

(5) On the old charts, extra point attempts would be treated as field goal attempts, the line of scrimmage being the 2-yd-line, unless altered by a penalty.

(6) Use of team selection and pointspreads (Advanced Rule #1) is particularly recommended in this type of competition, to account for any remaining discrepancy in the strengths of the old and new charts.

Of course, you must still beware of notational differences in the charts: the legend is different on the 1972 charts, the plays are numbered in a different order on the 1969 charts (Play 7 is the sideline pass, Play 8 is the medium pass, Play 9 is the long pass), etc.

Good luck, and let us know of the results of this type of competition!

Answers To Subscribers' Questions About The 1976 Team Charts Thomas R. Nicely

Since the release of the 1976 Team Charts for PAYDIRT1, queries have been received regarding their philosophy, construction, and format. We will attempt to answer these questions and to give you some insight into the design of the charts.

First and most important, the 1976 Team Charts were designed with a fundamentally different objective than were the 1969-1972 charts. The older charts were designed to reproduce the results of each play, for the given team, with the same relative frequency as that result occurred in the actual 14-game season. This was the fundamental axiom of design, and all else was built around it. Thus, if a team only ran the draw play six times all season, and never gained more than three yards (even if this was due to a muddy field or proximity to the opponent's goal), then the draw column would have no gain exceeding three yards. The disadvantage of this procedure is that in fact, the play itself will never be used at all in the play of the game-which is not realistic. Also, and more importantly, it can be shown that simply reproducing the relative frequency of each result WILL NOT REPRODUCE THE OVERALL PERFORMANCE OF THE TEAM. It is common knowledge that many teams have a much better (or much poorer) won-lost record than would be indicated by their statistics (e.g., Washington 1976), and that the winning team in a game often has inferior statistics. The reason is that the outcome of a game is decided not so much be the sum of the individual play results as it is by the SEQUENCE in which the plays occur, and by the luck factor and intangibles. Thus, the 1969-1972 charts reproduced perfectly the individual play results with the proper relative frequencies, but-as many players have notedstrong teams often ended up with losing records while teams weak in reality ended up as playoff contenders.

It was decided in constructing the 1976 Team Charts that the fundamental axiom of design would be to produce charts which, first and foremost, accurately reproduced the OVERALL PERFORM-ANCE OF EACH TEAM--that is, Super Bowl champion Oakland should, in the long run, have the best won-lost record; Tampa Bay the poorest; and so on for each of the other teams. Of course, in deciding the proper overall performance level for a given team, factors other than the final won-lost record are consideredsuch as quality of opponents, Las Vegas odds line, Pro Football Weekly's Power Ratings, etc.

Reconstructing the result of each play with the proper relative frequency now becomes a secondary, though still very important objective. This has been done in the 1976 Team Charts, as far as it can be done without violating the overall performance axiom above. However, once this boundary condition becomes secondary rather than primary, the charts may be designed to include another feature which can add greatly to the entertainment potential (also spontaneity) of the game-namely, each play can include the (remote) possibility of events occurring which did not in fact occur in the 14-game schedule, but which one would have expected (even desired) to occur. Thus, on the 1976 Team Charts, a roll of 19 on the "Magic Number" which will produce a Breakaway, Touchdown, or 100-yard gain on every play. This does not of course mean that this result actually occurred for every team on every play in in the course of the season; but that, in the long run, it could have been expected to occur at least this often. Subscriber George Donbrowski of Chicago, Illinois, objects that no quarterback could ever be expected to actually get a breakaway and then a 100-yard run, and consequently it is unrealistic and inaccurate to include this possibility on each chart. But a little statistical analysis reveals the following facts: using the 1976 charts, one would expect, on the average, only five breakaways to occur for all quarterbacks on all teams combined, in the ENTIRE SEA-SON; and a 100-yard gain on a quarterback trap breakaway will occur, mathematically, only once in 45 complete, entire pro seasons, for all guarterbacks combined! Most students of the game would agree that as unlikely as these events may be, they can surely be expected at least that often! Yet the fact that such event are possible-however unlikely they may beadds interest to the game.

From one point of view, it is in fact unrealistic to put on the charts only those results that actually occurred in the 14game schedule. Remember, you can play as many games as you like with the charts—and perhaps hundreds of thousands will be played—and it is certainly unlikely that if these teams were to play in reality a much longer schedule, no results would occur other than those which occurred in the 14-game schedule.

But basically, it is a matter of philosophy. Some players without doubt prefer charts of the 1969-1972 type, and some prefer charts of the 1976 type. We would be very interested to hear from the readers about their preferences. Do you prefer charts of the older type, which reproduce each play result with the proper relative frequency, or do you prefer the 1976 type, which reproduces the overall performance level of the team with greater accuracy?

Now let us consider some specific questions from the readers

Q: Why is each team's breakaway column the same in the 1976 charts?

A: The number of breakaways per team was considered statistically inadequate to justify a distinct breakaway column for each team. The single breakaway column is a composite of all breakaways for all teams. The theoretical justification for this design is that every pro team has a ball carrier capable of going all the way once he breaks into the open field, the fact that some team may have had no breakaway longer than, say, 24 yards during the 14-game schedule is more a consequence of analyzing a small sample than of their ball carrier's inability to break loose.

A: Why are there no penalties on the Special Team Charts, nor on certain team's rushing offenses (e.g., New York Jets)?

A: The designer apologizes for this inaccuracy. Af the time the 1976 statistics were analyzed, available information on occurrence and nature of penalties was incomplete. Penalty occurrence will be fully incorporated on the offensive charts and special team charts for the 1977 Team Charts (now being designed).

Q: Why do all the defenses look alike? A: Evidently it depends on who's looking They are certainly all designed differently and perform differently! Compare the performance of the defensive charts of Pittsburgh and Seattle, for example.

Q: Why does every team have the same chance for an interception, even Tampa Bay?

A: They do not. The interception probability for each defensive chart is proportional to the number of interceptions the defense actually made during the 1976 season. For example, the interception probability is three times as great on Los Angeles' chart as on Tampa Bay's.

Q: Why are all the distances the same on the punt return fumbles (+6 yards)?

A: Due to lack of information regarding this statistic at the time of design. This also will be remedied in the 1977 Team Charts.

Q: Do the punt column yardages reflect the exact punting average for that team's punters

A: The arithmetic mean of these yardages, when combined with the percentage returnable and the average length of return, is designed to reproduce the kicker's punting EFFICIENCY (average punt yardage minus average return yardage). This produces a more realistic result than simply reproducing the average punting yardage, which was done in the ald charts.

HORSES OF THE PAST—BOLD RULER

by Vic Hasselblad

I hope that this will be the first in a series of articles in which I will give the background on several of the "great" and "near great" horses of the past. In addition to the discussion, there will be a program for one race that can be run on a "Win, Place and Show" track. The numbers used in the program are designed so that it will be possible to run horses from one article against horses in another article. All twoyear-old horses will run 6 furlongs; all older horses will run 1¼ miles. Each horse running 1¼ miles will have 10 numbers instead of the 8 used in the game. The running of the race will follow all other rules of "Win, Place and Show." This first article features Bold Ruler.

Bold Ruler is now probably best known as the sire of Secretariat, but he was a great race horse before he was a great stud horse. In 1957, as a three-year-old, he was voted "Horse of the Year." The year 1957 may have produced one of the greatest groups of three-year-olds ever. In addition to Bold Ruler, there were two other great horses—Gallant Man and Round Table, plus a great supporting cast of Iron Liege, Gen. Duke, Federal Hill, and Promised Land.

In order to appreciate the greatness of Bold Ruler, it is necessary to understand his competition. Gallant Man could easily have been the horse of the year in 1957, having a record of 8 wins and 4 seconds in 14 races. Of his six losses, 3 were to Bold Ruler, one to Iron Liege in the Kentucky Derby, and one to Dedicate who was voted the best older horse in 1957. Gallant Man finished a nose behind when Bold Ruler set a track record for 13s miles at Jamaica. Gallant Man then set the American record for 14 miles in the Belmont. He later lowered the 14s mile record at Belmont while beating Dedicate.

Round Table won 15 races in 22 starts, and a total of \$600,258. He was voted the best grass horse in 1957, and then again in 1958 and 1959. In 1958 he was voted horse of the year. His \$1,740,869 lifetime earnings was the most by any horse until Kelso surpassed him. Round Table set or equalled 11 track records at 7 different tracks during his career.



The Kentucky Derby, America's most famous horse race, is the site of Vic Hasselblad's first in a series of great race supplements for WIN. PLACE & SHOW.

Bold Ruler started off the 1957 season in Florida with a decisive triumph in the Bahamas Stakes over Gen. Duke, Federal Hill, and Gallant Man. Gen. Duke and Bold Ruler then traded victories for the next three races, which included the Everglades, Flamingo, and Florida Derby. Iron Liege ran third in all three races, and Federal Hill faded to fifth or worse. Bold Ruler, Gallant Man, and Promised Land then raced in the Wood Memorial at Jamaica, N.Y. Bold Ruler won, finishing a nose ahead of Gallant Man.

With Gen. Duke injured, Bold Ruler was an odds on favorite to win the 1957 Kentucky Derby, Six of the nine horses have been put on the program so that the race can be recreated. In the actual race, Eddie Arcaro attempted to save Bold Ruler by restraining him early. Unfortunately, the tongue of Bold Ruler was extremely sensitive, and so he resented the restraint. As a result, Iron Liege, Gallant Man, and Round Table all finished ahead of Bold Ruler in that order. Federal Hill who had the early lead in the race, finished ahead of the remaining horses which included Indian Creek, Mister Jive, Better Bee, and Shan Pac.

The Preakness was a different story, as Arcaro let Bold Ruler take the lead from Federal Hill. The result was a wire-towire victory, with Iron Liege second, Inside Tract third, Promised Land fourth, and Federal Hill seventh. The Belmont is a quarter-of-a-mile longer than either the Kentucky Derby or Preakness, making it tougher for a horse who likes to take the early lead. This proved to be the difference, as Bold Ruler lead the first mile and a quarter, but gave way to Gallant Man in the final quarter. Inside Tract finished second, 8 lengths behind Gallant Man, but 4 lengths ahead of Bold Ruler.

After a three months rest, Bold Ruler easily won the Times Square Handicap and Jerome Handicap at 6 furlongs and one mile respectively. He then took on Dedicate, Gallant Man, and Reneged in the 1¼ mile Woodward Stakes, but he finished only ahead of Reneged. The trainer, Fitzsimmons, then decided that Bold Ruler was better suited to the shorter races, and so he entered and won three straight handicap races at 7 furlongs to 1-1/16 miles. As a result, Bold Ruler was given one last chance at 1¼ miles in the Trenton Handicap. Only three horses were entered in the race, but the betting public couldn't decide who should be the favorite. Bold Ruler went off at 1.60 to 1, Gallant Man at 1.40 to 1, and Round Table at 1.70 to 1. Bold Ruler led from wire-towire, winning by over two lengths. Gallant Man finished second, eight and one-half lengths ahead of Round Table. This was the clincher that gave Bold Ruler horse of the year honors.

Bold Ruler returned the next year, and started the season with 5 wins and a second. He then broke his leg in the Brooklyn Handicap and was forced to retire from racing. He still paid his feed bill, however, as he was the leading sire from 1963 to 1969 and again in 1973. Of course in 1973, Secretariat contributed over \$860,000 of the 1½ million won by his offspring. Bold Ruler died in 1971 at Claiborne Farm where he was born. His lifetime record is given below.

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3	16	11	2	2	1	415,160
4	7	5	1	0	1	209,994
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ALL-STAR REPLAY

Win, Place & Show THE FUNCTION OF THE VARIABLES

by Tom Divoll

One of our most exciting and popular new sports games is WIN, PLACE & SHOW, designed by Tom Divoll and John B. Reilly. In this article, originally prepared as an in-depth analysis of the game for Avalon Hill's design staff, Tom Divoll presents some insights into the game's subtleties that may surprise you.

The white die determines which horse moves first, and the others follow, consecutively, in order. For example, when the white die shows a 4, the order of play becomes 4-5-6-1-2-3. Simple enough, and fair. But this can spell disaster unless you are shrewd on the turns, and lucky at the wire.

Assume, for example, you own the #2 horse, ROTUNDA, in the First Race. You paid good money for him in the AUC-TION, and you backed him heavily in the betting. You are looking for a good piece of the purse money, and at 4-1, a good pay off on your bet. Assume further, that ROTUNDA'S BONUS NUMBER (6) appeared on the second play, giving 3 extra spaces. Under these conditions, your horse is very nicely placed, as you approach the turn.

Your next play, strategy for the turn, is CRUCIAL to your interests, and the outcome depends on the play situation, YOUR DECISION, and the capricious white die. To begin with, the inside lane has 15 spaces, the second lane 17 spaces, the third 18. "Saving ground", and spaces, can be very valuable at finish time. So is "racing room", and the ability to make your move. Since you CANNOT CHANGE LANES ON THE TURN, it is decision time in tough city.

Assume, for example, that GUN-SMOKE with all that early speed is tucked in there on the inside lane, and it's your move. You can reasonably assume that it is safe to pull in behind him. 5 times out of 6 he will move before you do on the next play, and clear your path. The only instance where he could block #2, RO-TUNDA, is WHEN A 2 SHOWS ON THE WHITE DIE. Any number but 2, leaves you safe.

OR DOES IT? ... Suppose you failed to notice that #3, HOLD ON HARRY, happened to be sitting ON A PASSING SQUARE. Thinking you were safe, you now anguish as HOLD ON HARRY squeezes by you, and BLOCKS YOUR LANE FOR THE NEXT MOVE! Now, your only hope rests with that 1 chance out of 6 that a 3 on the white die moves troublesome HARRY out of your path. Pardon me, Gaston.

The white die can cause further havoc at finish time. When two horses tie, (carrying the same type of jockey) the LAST HORSE TO ARRIVE AT THE WINNING SPACE, WINS BY A NOSE. Thus, the best laid plans of mice, men, and horses are subject to the rolling whims of the powerful white die. "... that old white magic, has me in its spell".

The all important white die doesn't always act alone when influencing the horses in *Win*, *Place*, and *Show*. Coupled with the green die, it creates a BONUS NUMBER, giving the appropriate horse a good smack with THE WHIP! . . . and he usually responds with an energy surge of three valuable spaces. "Usually", only because you, like I, will occasionally forget to apply the bonus when it occurs. But then, you and I are only human, and the horses have to consider this, as they struggle toward the wire.

Once again, in that exemplary First Race, THE WHIP can determine the nature of your start on a day at the track. On the average, GUNSMOKE will receive the whip the fewest times. The favorite, LUCKY OLD SUN, will get the whip most often. The reason for this is simple dice PROBABILITY:

white die: green die

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There's your normal curve of distribution, to GUNSMOKE'S detriment, and LUCKY OLD SUN'S advantage. Remember the arrow it forms, because this becomes vital in assessing a horses's real ability to win his race. For example, in the First Race:

GUNSMOKE has 1 chance in 18 of receiving THE WHIP.

ROTUNDA has 5 chances in 36 of receiving THE WHIP.

HOLD ON HARRY has 1 chance in 9 of receiving THE WHIP.

LUCKY OLD SUN has 1 chance in 6 of receiving THE WHIP

MUSTARD SEED has 5 chances in 36 of receiving THE WHIP.

EIGHT BALL has 1 chance in 9 of receiving THE WHIP.

Thus, according to PROBABILITY, GUNSMOKE should get the WHIP once in every three races. When he does . . WATCH OUT!! In the meantime, LUCKY OLD SUN should get the WHIP in every race . . . BANGO!!!! How dull life would be, and games too, if men and dice and horses were totally predictable.

Those of us who risk our hard earned money at the live track and playing *Win*, *Place* and *Show*, become increasingly concerned with the quality of the jockey's ride. Maryland Joe always says to me: "Bet the Jock . . . he'll take care of the horse." Yet, my Aunt Marilyn says: "Bet the horse . . . if he's good, even I could ride him." Somewhere between Maryland and Marilyn, I always choose to lose. But, as they say in the Clubhouse . . . That's all in the game."

Once again in that First Race example, MUSTARD SEED and HOLD ON HAR-RY carry an APPRENTICE JOCKEY, and a TWO SPACE "apprentice allowance" for the jockey's inexperience. If either horse can weave safely through the crowded going, and reach the stretch with his basic running strength intact . hold on harry. Indeed, that's exactly how the #3 horse obtained his name. IF HOLD ON HARRY can save ground on the turn, receive the benefits of a "hot" white die, get his WHIP just once, and apply his Apprentice Allowance at the wire WHOO-EEE! A \$1000 bet pays \$16,000

... plus \$5,000 in purse money! !

And how about MUSTARD SEED? Early speed, reasonable class, chancy WHIP, tires but comes again, apprentice allowance ... on and on toward a top figure.

The problem, of course, is getting there. And the restricted maneuverability of APPRENTICE JOCKEY provides real problems in lane selection at the turn. While the VETERAN can weave in and out to secure favorable racing room, the APPRENTICE can move ONLY IN or ONLY OUT. This can lead to serious problems, when all the spaces are counted, and all the money is paid.



by Tom Divoll

After you've played Win, Place, and Show a few times, GUNSMOKE'S erratic performance in the First Race is almost sure to frustrate you. Like SEATTLE SLEW, he bangs out of the gate and is always among the leaders in the early going, Unlike, "The Slew", however, he all too often disappoints in the stretch. Yet, when you choose to ignore him, he occasionally just hangs on for the front money. This is why Maryland Joe, the Pimlico tout, aways rates GUNSMOKE with a "Chance Off Best".

And how about EIGHT BALL? This old plater lumbers down the backstretch like the tortoise in another famous race, then shifts into overdrive at the stretch turn, and is really flying at wire time. With all that class at 10 to 1, EIGHT BALL "Could Surprise" with a handsome pay off.

The horses obtain these racing characteristics from the distribution of their running strength numbers. After four plays, GUNSMOKE has accumulated 40 spaces from his running strength alone, EIGHT BALL only 29, with the other horses ranging between these extremes. However, in the last two plays, EIGHT BALL picks up 20 basic spaces and GUNSMOKE only 3. This margin of 17 spaces in the stretch causes GUNSMOKE to "Stop", while EIGHT BALL is flying like the wind.

When the WHITE DIE speaks, the horses have to listen. The WHITE DIE establishes the PACE FOR THE RACE, and in a large measure determines whether GUNSMOKE can hang on, or EIGHT BALL catch up. A single die thrown an infinite number of times will

WHEN DICE TALK, HORSES LISTEN

average 3.5. With a sufficient number of throws, each of the six digits will appear an equal number of times: 1 + 2 + 3 + 4 + 5 +6 = 21. 21 divided by 6 = 3.5. Thus, ON THE AVERAGE, the white die will add 21 spaces to the basic running strength of all horses in a Six Furlong (6 plays) race. But dice, like people and horses, have MOODS, and don't always ATTAIN THEIR AVERAGE!

At maximum extreme, six throws of a single die can produce 36 ... six consecutive sixes. At the minimum extreme, six throws can produce 6 ... six consecutive ones. Thus, in a six furlong race, the white die can add as many as 36 spaces to the running strength of each horse, or as few as 6. Again, however, PROBABILITIES cause the white die to range somewhere between 15 and 27 in six throws. And the white die's MOOD is crucial to the racing fate of GUNSMOKE, EIGHT BALL, and all the other hay burners in the field.

Assume, for example, the white die is running "hot", and produces 22 in FIVE THROWS: 6; 4; 3; 4; 5 = 22. At this blistering pace, if we consider running strength and the white die alone, (no other factors) THE RACE IS OVER AND GUNSMOKE WINS! And, poor old EIGHT BALL is dead last:

The other horses are bunched between them!

Now assume the white die is running quite normal, and produce 18 in five throws: 4; 1; 6; 3; 5 = 18. GUNSMOKE is at the wire, BUT NOT OVER, requiring another throw and play. Again, considering only white die and running strength, the horses would be positioned:

labels him "One To Beat".

Earlier, we established the WHITE DIE'S importance in setting the pace of the race, and how the horses respond in their peculiar way to its every beck and call. After you've played Win, Place and Show a few more times, both your patience and your pocketbook will be taxed by the white die's caprice. Just when you feel you've made a wise purchase in the AUCTION, placed shrewd bets at the windows, and are giving your favorite horse a good ride in crowded going, USUALLY THEN, "... that old white magic casts its spell."



Tom Divoll, intrepid designer of WIN. PLACE & SHOW, is shown here prior to playtesting his new "Sea Horse" variant of WP & 5, designed especially for underwater play. Since % of Earth is underwater. AH hopes this specially coated waterproof version will open up new markets previously untapped.



SPEED CIRCUIT SOUPED UP

EDITOR'S NOTE—The author of this article, besides being an avid sports and war gamer, has raced in the Sports Car Club of America for a number of years in the small formula classes. Part of his comments on the game are derived from his experiences in racing.

By Mark J. Maticek

THE SPORT

Automobile racing is the largest nonbetting spectator sport in the world. At the pinnacle of that world is the World Championship of Drivers, the Formula One Grand Prix circuit. The Formula One circuit is a series of 16 races spanning 5 continents over a period of 10 months. It includes some of the most famous race tracks in the world: Monza, Nurburgring, Watkins Glen, Monaco and Brands Hatch. The cars are built to a formula, i.e., similar specifications. Those "autos" are 1300lb. projectiles of magnesium, titanium and steel; capable of 200 mph and costing in excess of \$125,000 per copy. They are powered by \$30,000 three litre engines (183 cubic inches) of 500 horsepower currently either 8 or 12 cylinders. Transmissions are universally Hewland 5 speed gearboxes which allow changes in ratios to suit the peculiarities of various tracks. The two foot wide tires are soft rubber slicks which become as sticky as gum at optimum operating temperatures. The cars are all required to have on-board automatic fire extinguisher systems, aero space fuel cells and deformable collision structures. Yet no one would call Formula One racing "safe," Mark Donahue, Peter Revson, Francois Cervert, Roger Williamson and this past March, Tom Pryce have all died while trying to obtain the goal of all racing drivers: to be the World Champion.

Besides the challenge and danger of the sport, in recent years it has become big business as well. The cost of running a two car team for an entire season can amount to over one million dollars. With the ban on cigarette commercials on TV in the U.S. and Europe, millions of sponsorship dollars became available to augment the ever rising cost of going motor racing. Marlboro International, Gitanes (France). John Player (England) and L&M were in the forefront of the international racing scene in the early seventies. The money encouraged a more professional attitude among the teams and took the sport out of the realm of a pastime for rich playboys and aristocrats Tremendous promotion helped the tracks draw crowds of over

100,000. Nurburgring even drew 400,000 on one occasion! With this growth came the inevitable politics and participant militancy. The GPDA (Grand Prix Drivers Association) pushed for greater purses and safety features on the tracks at which they raced. Because of their power within the sport, they have succeeded in eliminating Spa-Francorchamps (Belgium), Clermont-Ferrand (France) and now it appears the classic Nurburgring (Germany). In addition, chicanes have been added to the fastest corner of each circuit still in use. These Chicanes have altered the character of many of the great tracks that are still left.

With all of these changes, Formula One racing remains unique. The aura of glamour, tradition, sophistication and danger remains as it was in the days of Novalari, Ascara, Fangio and Moss. The game of Speed Circuit attempts to simulate these qualities for the table top racer.

Speed Circuit is a simple yet challenging simulation of Grand Prix racing. The game mechanics are easy to learn and effective in coping on a board with the realities of auto racing.

Each player is given a number of preparation points which he cashes in to obtain advantages in acceleration, breaking, starting speed, top speed and wear beyond the basic allowances in these categories. The abstract concept of "wear units" simulates the differences in the various chassis capabilities with respect to handling, gearing and to a lesser extent reliability. It can even be thought of as part of the driver's skill since it enables him to exceed his car's physical limits within reason.

A truly realistic racing game would not allow the drivers to exceed the laws of physics concerning the cars they drive. It also would not be very much fun to play. Speed Circuit is not meant to be a literal interpretation of auto racing. Contrary to what most people believe, auto racing is 90% car and engine, only 10% driver. Obviously, a game based on those criteria would be pretty cut and dried. Speed Circuit is not that. It is exciting and challenging when played by experienced people. In addition, it is faithful enough from the driving viewpoint to be considered a better than fair simulation. The drivers will be confronted with the same decisions that confront a real race driver: where to pass a car, when to push your car to its limit and when to "stroke it."

An interesting aspect of the mechanics that reflect those decisions a driver must make are the cornering rules. Arrows through the corners show the proper racing "line" When following those arrows for their full duration, the players are given a bonus in speed through that corner. Make a mistake in picking your place to pass and it will cost you one way or another: either in reducing your speed or forcing you to use precious wear points. Heavy traffic will make you pick your spot on the track carefully to avoid those penalties. The decision of where to put your car confronts a Grand Prix driver often during a race.

The slipstreaming or drifting rules are also done well. Bonus moves for cars following the lead car in a chain of 2 or more cars reflects the effect of the lead car creating a vacuum behind it, allowing the following cars to conserve their RPM's and yet maintain the same speed. Those famous slipstreaming battles on the long straights of Monza can easily be duplicated in Speed Circuit.

Photo by Joe Silbertulu

While the game overall is well done, it has one major flaw which hampers the "feel" of the particular tracks. That flaw is the game board (which I might add is graphically excellent). Its accuracy is another thing. Since the game was first published by 3M, all of the tracks depicted have undergone considerable changes. I was disappointed to see these changes were not incorporated into the new edition. Monza suffers the least. It is wide and straight as depicted but now has two chicanes. Watkins Glen was completely rebuilt in 1971. Lengthened from 2.3 miles to 3.7 miles, it now incorporates four more turns as well as a new chicane at the esses (the first turns after the start finish line on the current board) It is Monaco however that is the most grossly misrepresented. That circuit too has been lengthened and three new turns added. But even forgetting the new changes, the track as shown before does not convey the "feel" of Monte Carlo. The track is much too wide to simulate the difficulty drivers have in passing there. Monaco is a test of patience and endurance. Speeds are relatively slow. Traffic is always a problem. The board just doesn't allow those situations to develop. To rectify the situation, a new straight section should be incorporated along with, thats right . . . a chicane (although this chicane has been a part of the track for decades and is one of the most famous in all of racing) which was erroneously left off the map.

To any enterprising gamer however, these flaws can be overcome with poster board, felt markers and a suitable diagram of the race track. Speed Circuit provides the basis for an almost unlimited expansion. Any track currently or previously in use can be recreated with a little imagination.

One last note of criticism, admittedly nit-picking. The new bookshelf box cover shows a photo of Formula 2 cars, not Formula 1 Grand Prix machines. And you thought I wouldn't notice.

GAME OPTIONS

While Speed Circuit is a fine game as it stands. I can't resist the temptation to tinker with it. One thing missing that plays a vital role in nearly all forms of racing are the pits. While cars incur penalties of wear and spinouts for excess speed in cornering, there are still occasions when cars would be forced to make a pit stop. Grand Prix races are "sprint" races of approximately 200 miles in length. The cars carry enough fuel to go the distance without stopping so that a pit stop would be unplanned and costly. However a spinout or rain can alter the best laid plans. Curbing at Monaco and extensive guardrail at Monza and Watkins Glen can make a spin debilitating to the car and possibly the driver. Damage to the car can sometimes be patched up with a quick pit stop.

Weather as well can force a change in plans and make a pit stop necessary. Modern Formula One cars are equipped with wide, slick racing tires made for a dry track. In the rain, they become lethal! Those smooth tires ride on top of a layer of water in a phenomena known as hydroplaning. The cars handle as if they were on a sheet of ice even at low speeds. The drivers are forced to stop in the pits for grooved rain tires.

The following rules can be adopted to reflect these factors in Grand Prix racing. It is recommended that these rules be used as a whole in races of 4 laps or more duration with a minimum of six cars. All standard rules of Speed Circuit apply unless directly specified otherwise

Optional Rules

9.4—Whenever a spinout is indicated, due either to cornering or on the chance table, cars must roll on the HAZARD TABLE (Table One). If the driver is required to make a pit stop, he must do so at the first opportunity unless it occurs on the last lap in which case he may ignore it

18 WEATHER

18.1—Before the race begins and the turn the lead car crosses the finish line on each subsequent lap, roll a die for weather and consult the WEATHER TABLE (Table Two). The results are effective immediately.

18.2—If rain is indicated, reduce all posted speed limits in corners by 20 mph.

18.3—If a car makes a pit stop to take on rain tires, that car may proceed at the normal posted speed limits.

18.4—If rain is indicated before the race begins, all cars may designate they are running on rinn tires and incur no penalties.

18.5—If the weather die rolls indicate dry for two laps in a row after a turn when rain was indicated, on any subsequent laps cars equipped with rain tires are forced to obey a 20 mph corner speed limit reduction in all corners unless they pit for dry tires. (This rule reflects the fact that rain tires chunk and shred upon extreme heat which dry road conditions induce).

19 PITS

19.1—Any time a pit stop is indicated, cars must proceed to the pits at the first opportunity. They may pit in the stall of their choice. All pit stops on the last lap are ignored.

19.2—Cars may enter the pits at any speed. There is no deceleration required. Cars merely stop when reaching the pit of their choice. 19.3—When leaving the pits, cars must use their Start Speed as shown on their Perform-

ance Chart

19.4—Cars in the pits must yield the right of way to any cars on the track. If the track is blocked preventing a car from exiting the pits, he must wait until the track is clear. The pits are considered the inner most lane for movement priority purposes.

19.5—Cars may proceed with normal acceleration following the turn in which they leave the pits.

20 QUALIFYING

20.1—Instead of using the starting positions sequence as outlined in rule 2.7, drivers may wish to actually qualify for grid position. Starting from a dead stop at the start line, drivers individually complete one lap, using their normal specification chart. Count the **number of turns required to complete one lap as well as the number of squares inclusive** beyond the finish line the car crosses on the last turn. Record that time as NUMBER OF TURNS/SQUARES Car with the best time is on the pole, second best time outside 1st row etc. Ties can be determined by die roll, with highest number getting the more advantageous position.

EXAMPLE—Car A completes one qualifying lap in 8 turns and ends up on the 5th turn 4 squares beyond the finish line. Its time is recorded as 8/4. Car B qualifies at 8/6 and is awarded the pole because it went farther (6 squares as compared to 4) in the same number of turns. If car B had qualified at 9/6, car A would have been awarded the pole because it took fewer turns to go the same distance.

CLARIFICATION OF TABLES AND RULES: ALL REDUCTIONS OF SPEED LIMITS IN CORNERS ARE CUMULATIVE. HOW-EVER, AT NO TIME MAY THE SPEED LIMIT FOR A CAR IN A CORNER BE REDUCED TO LESS THAN 20 MPH

STRATEGY

Every gamer has his own style of play, be it aggressive or cautious. Both styles have their place in Speed Circuit. Neither is a guarantee of success. Common sense will have to be your guide as to when to take a chance or when to move with caution. There are some things you can do to insure better lap times, fewer spins and more consistent placings.

First, some theories of race car driving that are very applicable to the game. The most important corner on the track is the one that precedes the longest straight. If you intend to make up time on another car or want to use some wear points up, this is the spot to do it. The second most important corner is the one that follows the longest straight. The basic objective is to be at maximum speed for the longest time possible. Secondly, conserve your wear units. They are the single most important specification that you have Whether you feel comfortable leading the race or lying back waiting for your chance, conserve those wear units. You may need them for something unexpected like a traffic jam at a corner when you are blowing down the straight at 180 mph with only two squares to the corner

Third, when preparing your car, NEVER waste a valuable preparation point on increased start speed. You can only use that once a race (unless the optional rules here are used) and its overall effect may be one or two square advantage over a 2-4 lap race. On the other hand, spending those points for greater deceleration will permit you to use less wear for braking and more for bonus speed in corners.

Finally, slipstream whenever possible, particularly on long straights with slow corners at the end of them. This will permit you to keep up with the pack while you are going at reduced speed, again saving your wear for bonuses instead of braking.

So now you are in the cockpit of a sleek Formula One car at Monaco and the grid marshal says, "Monsieurs, commencez vos machines!" It's the closest most of us will ever get to grand prix racing.

Hto H CONTINUED

Beginner, 24, want ftf with H.S. and College players for AH games. Have SC & TM. Louis Boish, 426 N. Alta Vista, L.A., CA 90036, (213) 934-8154

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Will trade my CHAL GF for Pennant Race or SI Baseball; also have 1972 Paydirt charts for sale. or trade, Tom Roever, 5829 N. 33rd St., Milwaukee, WI 53209.

ENCLOSURES

Two additional enclosures are a part of the Speed Circuit package in this issue.

One is a chart of the 1977 Formula One cars and their specifications translated into Speed Circuit mechanics. During the course of several races, the cars should perform closely with the way they did this past season. One interesting difference is the acceleration advantages the 12 cylinder cars have over the Ford V-8's, once the king engine of Formula One and still very competitive.

The Lotus 78 is one of the lightest, best handling and braking cars in Formula One today. This is reflected in its deceleration and acceleration rates with a high wear rating. The Tyrrell is the radical 6wheeler (4 small wheels in the front) which has yet to show any inherent advantages over its more conventional rivals. The McLaren is a revised version of last years championship car. The Wolf is a new car financed and built by Canadian millionaire Walter Wolf. It had the unique distinction of winning its first race at Argentina and later won at Monaco in May. The Ferrari is this years champion and is a slightly revised version of the car Nicki Lauda drove to his first world championship in 1975.

The second set of enclosures are two new race tracks to supplement the boredom of racing continuously on the tracks included with the game.

Kyalami has been the home of the South African Grand Prix since 1967. It is located just outside of Johannesburg and is known for its fantastic weather in March, a welcome relief for the winterweary European teams. You should suspend the weather rules listed as an option since it almost never rains for the Grand Prix. Kyalami is a fast track and a drivers' favorite. It can also be quite lethal. Peter Revson and Tom Pryce lost their lives here.

Now that Spa in the Ardennes forest has been banned by the GPDA as unsafe, the Belgian Grand Prix has alternated between Zolder and the new Nivelles circuit near Brussels. Nivelles will host the 1978 Belgian Grand Prix. It is one of the new "safe" circuits with a lot of runoff area in the corners supplemented by lots of Armco barriers and catch fencing. It is a tight, flat and relatively featureless circuit, very hard on brakes. While it is not as glamorous as the famous Spa circuit, it is safe and that is the prime consideration in today's Grand Prix world.

Questions & Answers

- When a car is slipstreaming, if the car exceeds its maximum speed or acceleration solely because of the bonus, does the driver have to roll on the Acceleration Table? No.
- 2. When a car is slipstreaming, if its speed is 120 and it goes into a turn at 140 (on a 120 mph curve) is the car penalized? No. For all purposes, it is assumed that the car is traveling at the slower speed except that it moves one bonus space (or two if the lead car is going 180 mph or faster).
- 3. Is there a maximum speed limit by which a posted corner space speed limit may be exceeded? Yes. Although the Cornering Chart only covers speeds exceeding the posted limit by 60 mph, it should be assumed that any car which goes through a corner at more than 60 mph over the posted limit has crashed.

- 4. In slipstreaming, the rules say that the car which employs slipstreaming must begin the turn directly behind the car they slipstream. Does the slipstreaming car have to end its move behind the other car too? No.
- 5. What happens if a driver is required to pay WEAR units per the Deceleration Chart when he has none left? For instance, suppose the player inadvertently decelerated 40 mph more than his maximum (with no WEAR units remaining); what does he do? Test brakes, and then automatic spinout (Essentially, the brake test is just to see if he crashes and is out of the race).
- 6. Suppose a driver is forced to enter a corner at a speed such that he has insufficient WEAR units; what happens? This could happen when a driver is forced into a corner space due to traffic to avoid a collision—a space with a lower posted speed than the one he had originally planned on. He would consult the Chance Table.

THE SPORTS GAME DIGEST

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GRAND PRIX de BELGIQUE NIVELLES, BELGIUM 2.314 miles

TEAM CAR-DRIVERS	PAEP PTS	START SPEED	ACCELER- ATION	DECELER- ATION	TOP SPEED	WEAR
Ferrari 31272—Flat 12 Nicki Lauda, Carlos Reutemann	6	40	60	40	180	6
John Player Special Lotus 78—Ford V-8 Mario Andretti, Gunnar Nilsson	6	40	40	60	180	5
Mariboro McLaren M26—Ford V-8 Janies Hunt, Jochen Mass	5	40	40	40	180	5
Elf Tyrrell P34—Ford V-8 Patrick DePailler, Ronnie Peterson	5	40	40	40	180	5
Martini Brabham BT45—Alfa Romeo Flat 12 John Watson, Carlos Pace	5	40	60	40	180	4
Wolf WR-1-Ford V-8 Jody Scheckter	5	60	40	20	180	ő
Gitanes Ligier JS7 – Matra V-12 Jacques Lafitte	5	40	60	40	180	4
Beta March 771—Ford V-8 Vittoric Bramonia	4	40	40	20	160	5
Shadow DN8—Ford V-8 Tom Pryce, Alan Jones	4	40	40	20	180	5

TABLE 3—SPECIFICATIONS FOR 1977 FORMULA ONE CARS



SOUTH AFRICAN GRAND PRIX

KYALAMI GRAND PRIX CIRCUIT2.55 milesJOHANNESBURG, R.S.A.







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		C	C		
		C	C		
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FINISH — START

1	No. effect,
Ż	No effect.
3	Hit curb, deflating tire, Lose one turn in pits (stopped for one turn) to change (ire,
40	Ignition difficulties stop in pips for 2 turns to change plugs.
5	Crunch nose on guardrail. Car loses aerodynamic effectiveness, Reduce top speed by 20 mph reduce all cornering posted timits by 20 mph for remainder of race.
8	Break suspension upright. Car crashes out of race

TABLE 1-HAZABD TABLE



THE SPORTS GAME DIGEST



1	No effect.
2	No effect.
3	Hit curb, deflating tire. Lose one turn in pits (stopped for one turn) to change tire.
4	Ignition difficulties, stop in pits for 2 turns to change plugs.
5	Crunch nose on guardraii. Car loses aerodynamic effectiveness. Reduce top speed by 20 mph. reduce all cornering posted limits by 20 mph for remainder of race.
6	Break suspension upright. Car crashes out of race.

TABLE 1-HAZARD TABLE

TABLE 2-WEATHER

100

100

DIE ROLL	RESULT	TABLE 4	1st	Place - 9 Pts.
t.	Bain	OFFICIAL	2nd 3rd	Place - 6 Pts. Place - 4 Pts.
20		GRAND PRIX	4th 5th	Place — 3 Pts. Place — 2 Pts.
2-6	Dry	SCORING	6th	Place - 1 Pts.





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	FINISH	START		22



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The Basketball League of Greater Belchovia

by Arnold Hendrick

A little north of Lower Slavobia, east of West Ostgosh, and along the swamp shores of Lake Putrid, lies the nation of Greater Belchovia. Colonized by an offcourse American filibustering expedition in the 1850's, it has since degenerated into a land of sports addicts with an exceptional taste for cheap intoxicating beverages.

Recently Belchovia was introduced to American basketball, and was immediately captivated by the sport, with local leagues formed for each empty parking lot in the nation. The sport became Big Money when the Belchovian Television Conglomerate (BTVC) took over these teams and moved the games into local studios, providing all necessary equipment and materials except the players. This proved such a difficult commodity that eventually the BTVC was forced to pay manager/coaches a healthy cash award for providing the local station with a team capable of playing the game.

Since Belchovia is a small nation, and the number of parking lots limited to one per major urban center (reflecting the wealth of the nation), at most Belchovia has an eight-team league, named as follows:

Anytown Apathetics (Appallers) Capital Clodhoppers (Contemptibles) Everyville Errants (Excrements) Minipolis Muddlers (Misanthropes) North Nowhere Nitwits (Nobodies)

Podunk Pestilents (Plodders)

Redneck Station Ramschacklers (Recessions)

Smallburg Slugs (Shamblers)

The parenthesized () names are used in alternate years, giving the sport a most necessary fresh and lively cast.

Due to the demands of TV coverage, and in recognition of the average citizen's limited attention span, a game has been changed from four 12-minute quarters to three 10-minute periods. This means team time-outs must be reduced from seven to five, but otherwise all American NBA rules are used. A copy of Avalon Hill's Basketball Strategy game started the entire craze for the sport, so now it is traditional for manager/coaches to play this game on the sidelines, yelling out results so that the players can duplicate it on the floor. Despite the difficulties, fans unanimously agree this system produces better play than the original "parking-lot period" games. The Belchovian United



Basketball Federation (BUBF) has been organized to regulate the finer points in game rules and league procedure.

The peculiar relationship between BTVC monies and manager/coachprovided players, makes Belchovian basketball truly different. Unlike most situations, teams must be competitive on fixed and relatively similar incomes. Already some manager/coaches have discovered one quick way to personal profit is to keep player salaries down. Unfortunately, more often than not, this means poorer players.

In the first year of BUBF, the ingenious and enterprising coach/managers solved player problems by recruiting in America, representing Belchovian basketball as demonstration games. The short season and easy money proved attractive, as well as Belchovia's reputation for low prices and lower women. The pro listing used was provided by a California group (see OOPS draft pool, Vol. 1, #1, pg. 22), and each manager/coach called a player in turn, and after determining salary requirements and contract length, decided whether to take the man or not, and if so, for how many years. Regardless of his final decision, each manager/coach was allowed one choice in turn. Sometimes a player one coach felt was too expensive was called by another later, who found his salary demands changed somewhat. Regarding contract lengths, after their bitter experience with American procedures,

the players simply informed the coaches of the maximum possible period they wished to play, and the coaches could sign them up for this or shorter.

The talking power of money is so renowned in Belchovia that no one thought it amiss for some coaches to hire more than a dozen players. Any number of players could be put under contract, but not more than a dozen of them could be on the team for a season, the remainder being paid not to play! Desire for profit normally limits this practice, of course.

Getting back to the playing season, it is important to note that again because of short Belchovian attention-spans, each team plays each opposing team twice (once at home, once away). The two teams with the best victory record go to the best-of-three championships. In cases of a tie for a championship berth, a special play-off-game is held.

The championships are held in the national stadium, which is invariably filled to capacity, which means \$75,000 extra revenue, divided 2-for-1 to winner (\$50,000) and loser (\$25,000). Play-off games, when necessary, are also held there, with the \$10,000 revenue per playoff game divided equally between the two teams. However, players on the 12-man squad of a team in the championships must be paid a bonus of \$1,500 each if they win, or \$1,000 each if they lose. Players under contract, but not playing with the 12-man team that year, need not

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be paid any bonus.

Belchovian law is very strict about player-management contracts, and it is well known that the Belchovian Civil & Criminal Corrections Agency hires men with extremely lurid and sadistic minds, This has discouraged all types of contractbreaking, under-the-table trades, and the usual legal hi-jinks so typical during American seasons, However, Belchovian law only goes as far as the national borders, and the nation has disdained any foreign extradition treaties. To retire, a player simply slips over the border. Of course, he can't return (or at least, would be extremely unwise to do so, and after the tender ministrations of the Corrections Agency would probably have a hard time walking and talking, much less playing basketball).

This tendancy of players to unexpectedly retire after a season is finished was found to be predictable: by rolling a pair of dice, a total of "11" or "12" indicated he was already at the border and going into retirement. This was determined player by player, so that although the average was 1 in 12 retiring, it was not necessarily evenly distributed among teams.

This gradual attrition forced the manager/coaches to look to Belchovian schoolboys for new talent. The educational system being what it is, a group of 13 rookies was available each year, and added to the pool of players with expired contracts (who became free agents, and thus draftable by any team. The 13 rookie group includes: 2 centers, 2 centerforwards, 3 forwards, 2 forward-guards, and 4 guards.

For various reasons, the number of teams in BUBF varies from year to year, and in years with teams going back into operation (without any players available), immigration from neighboring nations (thoughtfully encouraged by Belchovian Army expeditions) is used to provide the necessary additions to the draft pool, about one 13 player group per new team. Half of these new immigrants are pros, and half schoolboy rookies. Drafting rounds are held like the first year, with new teams choosing first, then old teams, in order of the lowest standing team to the highest, so that the past champion always picks last. Ties in standings are resolved in favor of the team which scored the least points during the previous season. New teams get two draft choices per round, old teams one. No expansion drafts are held, so that no coach need worry about new teams "stealing" his players.

Curiously, this system is fairer than it seems. On the average, schoolboys are often more desirable than old pros, because the former play for significantly less in money, and are quite often just as capable as their elders. Although the first game a schoolboy plays in can be rather wild, since his defensive and passing ability isn't known until he begins to actually play, this is a relatively trivial disadvantage, and at least the opposition is as surprised, sometimes unpleasantly! Newly organized teams tend to have a picking advantage for the new schoolboys, and thus are able to do more with less money, if they are lucky, so that in the very least, they will be assured of adequate funds for superstar hiring in future years, as even the best players eventually play out their contracts and come up for draft (barring retirement).

Because the profitability of Belchovian basketball depends so much on BTVC advances versus player salaries, with the former awarded as a lump sum, while the latter is paid out gradually, there is a certain temptation for manager/coaches to empty their strong-room safe midway in a particularly bad season, and simply bug-out, leaving the team high and dry, Although the thief obviously must make a rapid border-crossing, and is out of Belchovian sports, it does occur, and the resulting legal and financial tangles invariably put the team out of action for a years. Furthermore, managerfew

Icoaches have no multi-year contracts with BTVC, and thus run the teams more or less at their pleasure, and after some particularly disappointing results (such as making no profit, and coming in dead last for the season), have been known to sit out the next few seasons sulking. This is entirely legal, and as a result the manager-Icoaches tend to vary as well as the teams currently playing.

There is a running debate in Belchovian sports about whether the best team is that which wins the championship, or that which makes the biggest profit for its manager/coach. These are often quite contradictory goals, and some managers have been known to deliberately hire cheap and miserable players simply for the sake of making a profit. Still, the competitive instinct is strong, and every manager/coach dreams of winning the championship AND making a cool hundred grand. None of them managed that yet, but perhaps next year.

Ed. Note: The Belchovian Basketball League is for real, according to the author of this piece, and anyone interested in managing a team (and living in the greater Boston area) is invited to write to: Arnold Hendrick, 10 Cole Rd., Wayland, Mass 01778, or call (617) 358-4227.

card draw Ace King Queen Jack	funds available \$500,000 \$490,000 \$480,000 \$470,000	Player Conti die roll 1 2 3	maximum contract length 1 Year 2 Years 2 Years
Ten Nine Eight Seven	\$460,000 \$455,000 \$450,000 \$445,000	4 5 6	3 Years 3 Years 4 Years
Six Five Four Three Two	\$440,000 \$430,000 \$420,000 \$410,000 \$400,000	shorter con	ger & coach has option of offering tract, above is maximum lengt le "unreasonable agent demands

(N.B.: a deck	of 52 "philanth	ropy & extortion'
playing cards	is used)	

Player Salary Req	uirements					
player rating total 3-6 7 8 9 10 11 12 13 14 15 16 17 18	die roll 1 \$15,000 17,000 19,000 21,000 22,000 24,000 26,000 28,000 31,000 34,000 34,000 43,000 49,000	2 \$16,000 18,000 20,000 22,000 24,000 26,000 28,000 31,000 34,000 38,000 42,000 48,000 54,000	3 \$17,000 19,000 21,000 23,000 25,000 27,000 30,000 33,000 37,000 41,000 46,000 52,000 59,000	4 \$18,000 20,000 22,000 25,000 27,000 29,000 33,000 36,000 40,000 45,000 50,000 56,000 64,000	5 \$19,000 21,000 24,000 27,000 29,000 32,000 36,000 39,000 44,000 49,000 61,000 69,000	6 \$20,000 23,000 26,000 29,000 32,000 35,000 39,000 43,000 53,000 53,000 53,000 53,000 53,000 53,000 53,000 53,000



When introducing advanced and optional rules into Basketball Strategy, along with the larger player pools, there is some difficulty reconciling the TDR (team defense rating) with the increased defensive capabilities, not to mention the very great difficulty of matching defense ratings of 1-4 with offense ratings of 1-3 when making man-on-man guarding assignments in the tournament optional rules.

Actually, neither the TDR nor the man-on-man system is perfect, since a 4second shot apparently assumes that all players on both teams are generally involved in the play. For pro play, the ideal combination would be a strong emphasis on man-on-man, while some minor TDR modifier appeared to reflect overall strength (or weakness).

The solution is simply a revised TDR chart, and a special man-to-man cross reference system to indicate, for all shooting situations, what the die roll additions or subtractions will be. The tables suggested here emphasize man-onman play, and are mathematically designed to preserve shooting averages and making high-rating shooters "dangerous", while still giving the low-rating shooters the ability to pose some sort of threat, especially if they are unguarded

Team Defense

The total defense rating of the entire 5-player team is used to find the team defense modifier. This modifier applies to ALL shots except fast breaks. This means it is applied to open (O) and pick & roll (PR) shots.

Man-to-Man Defense

Drop the old rules for modifying the die roll due to offensive rating. The Manto-Man chart below shows the die roll modifier based on shooter and defender (if any) for ALL shots Cross-reference the offense rating of the shooter with the type of shot or defender's rating on the chart to get the modifier used.

If the shooter is making a free throw, use that line on the chart.

If the shooter is unguarded (making an open or pick & roll shot), use that line on the chart.

Otherwise, use the defense rating of the player covering the shooter. Note that a player not in his normal position has a defense rating of "0", hence the "0" line, which reflects that even an unfamiliar player is better than no coverage at all (but presumably not much, especially in the specialized play of pros).

When a shooter is double-teamed, total the ratings of both defenders when using the chart. Note that if this total is 4 or greater, a special line ("4 double") is used. If a double-teamed shooter gets a pass permitting an open (O) or pick & roll (PR) or fast break (FB) shot, he is assumed to have escaped the poorer defender, so that only one of the double-team men (the one with the better defense rating) is counted when consulting the chart.

It is suggested that the man-to-man defense also be applied to fast-break shots, since there is at least one defender available. However, in this case, the increased shooting accuracy against teams with weak (team defense total of 11 or less, see team defense above) defense should also be applied, reflecting a slowness in reacting to the fast-break play.

Scorecard Revisions

Looking up all these modifiers can be an unbearable pain, needless to say. An easy remedy is noting the overall modifier for each man on your team, when he shoots guarded and unguarded, against the opposition. It is usually easiest to factor in the team defense modifier to these notes, and then make a special note for the change when making a fast-break shot. When using the suggested approach to fast-breaks and man-to-man coverage, this means simply that when the defense is 14 or better, you will be adding one or more to your fast-break shots.

Charts and Tables

TEAM DEFENSE

(affects all shots except fast breaks)

team total	shooting modifier	
18-20	-3	
16-17	-2	
14-15	-1	
12-13	0	
10-11	+1*	
8-9	+2*	
6-7	+3*	
0-5	+4*	
suggest that	these modifiers continue	

*suggest that these modifiers continue to apply in fast-breaks

MAN-TO-MAN DEFENSE

(compare shooter rating to total defense rating)

shot/	offense rati	ngofshoo	oter
defender	1	2	3
free throw	-6	0	+6
unguarded*	-3	-4	+9
0	-4	+3	+8
1	-6	+1	+6
2	-8	-1	+3
3	-10	-4	+1
4 (single)	-11	-7	-2
4 (double)	-12	-6	-1

use "4 (single)" when one player guards shooter use "4 (double)" when shooter is double-teamed by players who total four or more

*optionally, do not count fast-break shooters as unguarded



Notes on Probabilities

(Computed by the Belchovian Academy of Higher Arithmetic)

Average Characteristics of a Center 2.50—defense 1.83—offense 5.06—rebounding 1.36—passing 1.78—free throws 28%—tip-in ability (12.53 total player rating)

Average Characteristics of a Forward-Center 2.25—defense 1.89—offense 4.50—rebounding 1.39—passing 2.14—free throws 17%—tip-in ability (12.17 total player rating)

Average Characteristics of a Forward 2.17—defense 2.14—offense 3.31—rebounding 1.39—passing 2.50—free throws 6%—tip-in ability (11.51 total player rating)

Average Characteristics of a Forward-Guard 2.11—defense 2.03—offense 2.17—rebounding 1.72—passing 2.47—free throws no tip-in ability (10.50 total player rating)

Average Characteristics of a Guard 2:06—defense 2:06—offense 1:53—rebounding 2:22—passing 2:58—free throws no tip-in ability (10:45 total player rating)

(based on capabilities of new rookie players)

player rating total: solid of the affemtive, detensive, reloanding, paining, and free-throw rating of player. For all proplayers, these values are known before any deatting commences, schoolboy rookless: only offensive, reloanding, and freethermolog values are known coare this is slegitly different from Analom Hill version; and player rating is based on that total. After the start of their first game, the defensive and passing whitties of rookies hereme.

tip-in ability: any player with this ability will ack \$1,000 extra in salary, ichoulday makies will not, since it is not determined until their first game ias abane?

(N.B.: ane one "player greed" die when consulting the above table)

Bridge

by Jared Johnson

Jarrel Jahnson was a heatry contributor to early issues of The Analon Hill General in the mid-ta-late sixties, writing articles on gaming strategy, probability and statistics, and conducting various game surveys as well as authoring several installments of the AH Philmophy, Today he's a rock critic and bridge editor for The Denner Post in Denner, Colonado, Johnson doesn't get to play wargames as often as he used to but has concentrated on becoming an expert al bridge. He's a Life Master, the highest player rank awarded by The American Contract Bridge League, and frequently attends tournaments in the Rocky Mountain region and elsewhere in the country. He will be writing a regular column for All-Star Replay.

The first question you may be asking yourself is what is a bridge column doing in a sports game magazine? Well, bridge is a sport, a mental contact sport to be sure, but a sport nevertheless. And as an indoor sport, bridge is unique in that it appeals to both sexes, all ages and all professions without regard to physical condition. Hermine Baron, considered by many the country's top woman player, plays from a wheelchair.

Take a look at the highest levels of tournament bridge and you will find the same requirements for success (concentration, discipline, stamina and the ability to outthink, outplay and outwit your opponents) as you find in football, baseball and basketball.

There is, of course, one big difference between bridge and most other sports. Bridge is primarily a participating rather than a spectator sport. I would have to admit it's probably not nearly as interesting to watch a room full of people playing bridge as it is to watch a football game, but that's part of the appeal. You can't appreciate the action unless you're a part of it.

But we may still be on the same ground. You, the subscribers of this magazine, are obviously not content to just watch your favorite sport on TV. Many of you undoubtedly become physically involved and when you're not doing that, it's time to take out an Avalon Hill game and reenact all the excitement and enthusiasm of your favorit sport on the dining room table. You're a participant not just a spectator and that's also the key to bridge There are many different forms of bridge from the variations on the rubber bridge game you play at home to tournament or duplicate bridge, so we have plenty to talk about in future columns. In addition to general articles on bidding and strategy, these are some of the likely topics:

1. An introduction to tournament bridge. There are 80 million bridge players in this country, hundreds of millions worldwide, but only a fraction of them play duplicate or tournament bridge, and it's not because they wouldn't enjoy it. Most of them have just never tried it. We'll try to clue you in on what you may be missing and urge you to take a trip down to your local duplicate bridge club to find out first-hand what it's all about.

2. Challenge Bridge. Part of the former 3-M series of bookshelf games, now marketed by Avalon Hill, this game allows you to hold the equivalent of a duplicate bridge tournament in your very own home with just four people, and compare your bidding and play results with those of the experts who actually played the same hands in regional and national tournaments.

 Other variations of bridge such as honeymoon or two-handed bridge, cutthroat or three-handed bridge and several other versions that are floating around apparently nameless.

4. An introduction to some of the top tournament bridge players in the country. Yes, the bridge world has its own celebrities and although they may not be quite as well known to the general public as Joe Namath, O.J. Simpson or Muhammad Ali, I think you'll find them just as colorful once you get to know them.

And if there's anything you'd especially like to see in this column, drop me a line care of "All-Star Replay" and let me know about it. Thanks.



"Throw Da Bum Out!"

Putouts, Assists, and Errors in S.I. Baseball

By Victor Vitek

Bottom of the ninth, two outs, winning run on third, Koufax on the mound. The pitch—the batter swings, hits it, and, OH NO, an error. The runner scores, the game is over. All right, who pulled the rock?

One of the bad points of the Sports Illustrated baseball game is that it does not take into account who makes errors in a game. If you like to keep statistics, putouts, assists, and errors would be helpful to determine just how well a player does. I have devised two methods to determine putouts, assists, and errorsthe first is straightforward, done using the top fielding marks listed in The Baseball Encyclopedia by MacMillan. By adding up the total chances that were made at each position for the top three single-season leaders, one can form a pattern as to who gets the most outs (and assists and chances) in a game. This is then used to determine how many chances out of 216 there is that a left fielder got the ball. These results are shown in Table 1.

Groundouts were determined using just the infielders, since few outfielders get 7-3 assists. Normal flyouts were done using all nine players, since the ball could be a pop-up to the infield. All sacrifice flies and fly () were just divided up among the outfield, giving left fielders the majority of the outs with right-handed hitters up, and right fielders with lefties swinging the lumber. For a (SF) the centerfielder is enhanced, since a fly ball hit long enough to allow other runners to advance a base must be hit to the deepest parts of the outfield, which is usually centerfield.

Errors (in table two) were established using the 1971 major league record book all errors were added up, then all errors at each position, these were then expressed as percentages and transformed into X out of 216 chances to occur. This method, however, does not take into account the various fielding abilities of the players. That is why a second system was developed.

To illustrate the error table, I will use the 1971 Oakland A's as an example. Let's start a lineup of Tommy Davis (IB, -1), Dick Green (2B, +5), Bert Campaneris (SS, +3), Sal Bando (3B, +5), Curt Blefary (LF, 0), Angel Mangual (CF, +2), Reggie Jackson (RF, +5), Gene Teance (C, 0), and Catfish Hunter (P, +1).

First, add up the ABSOLUTE value of each player defensively. This makes Davis a +1 instead of -1, and makes the absolute sum 22, as opposed to the team defensive sum of 20. Next, take the difference between each player's individual defense and the absolute defensive sum. In our example, this makes Davis a 23, Green 17, Jackson 17, etc.

Third, multiply these numbers by the flyout chance table described previously.

These numbers are then added up to form the basis for the next division. Each player's number as determined after the multiplication above is divided by the sum of all of the player's numbers. Each player now has a number that reflects his defensive skill AND the chance that the ball is going to be hit to him. Thus, even though Curt Blefary, a 0, is poorer defensively than Bert Campaneris, a +3, Blefary the outfielder generally does not have as many chances to make an error as does shortstop Campaneris.



TWO OUT TWO STRIKES, BASES FULL



STRUCK OUT!

Finally, all of these individual numbers arrived at are multiplied by 216 to get the chance in 216 that that particular player will make an error. Due to rounding errors in other steps, the sum of these chances may be less or greater than 216. If less, add chances to the poorest defensive player in the infield. If greater, take chances away from the best defensive player in the outfield. The complete results of these calculations can be seen in Table 3, including the dice rolls assigned to each player. This last part may be psychologically important—the player with errors under 34 and 35 may not be the player most likely to make an error, but it will look like it if you just partially understand the probabilities and realize that 34 and 35 are the two numbers most likely to be rolled.

Even though this second method is somewhat lengthy, if a player uses either the same team or a two-platoon system regularly in a league, this method should work out to be fairer than most in determining putouts, assists, and errors; at least until a new revised edition of SI Baseball is put out by Avalon Hill.

Two final notes that may add more realism to the game. First, allow triple plays occasionally. This could be accomplished by saying that if a triple play possibility exists, and the batter is not a 5 runner, on a DP the defense rolls the dice after first choosing on whether or not to allow a run to score, or any other options available. If a 30 is rolled, the defense rolls again, and if a 23 is rolled, a triple play results. This would allow an average of one triple play every 777.6 double plays, while in 1971 there was an average of one triple play every 776 double plays. Perhaps a better percentage would be if a player rolled consecutive 14's, allowing one TP per 1296 DP.

My last note would be for Avalon Hill, or some patient researcher, to see how most double plays go, and then make up a chart for them.

Until then, if you want to play Billy Martin and yank a player after an error, you'll have to use one of these error systems.

Orienteering in Outdoor Survival

By David Minch

What's that? OUTDOOR SURVIVAL a sports game? Well, it isn't really, unless floundering around in the wilderness can be considered a sporting proposition. But OUTDOOR SURVIVAL is a game, and it just happens to be one of ours. This interesting article tells you how to turn your game of OUTDOOR SURVIVAL into a game about orienteering, a very definite and fastgrowing sport.

Orienteering is a sport gaining new adherents at every turn. Orienteering competitions are quite popular in Europe and Britain and, lately, in the US, particularly the wide-open lands of the American west.

The sport combines the best features of back-packing and cross-country running. The two most widely held orienteering events are "touring" competitions. In Course Orienteering, contestants are provided with maps marked with several "checkpoints". Using a compass and their own abilities, they must visit them in order and reach the finish line. The best time over the course gives a winner. Each competitor is free to choose his own course, provided only that he visit each checkpoint.

In Score Orienteering, the map given each runner lists a number of possible checkpoints, each with a different point value. Runners are free to visit as many of these as they may, within a fixed time limit. The winner is decided by the number of points scored; generally, contestants must choose between visiting a few high valued points or a number of low scoring ones. Strategy and endurance are the keys

Orienteering competitions can open new vistas in Avalon Hill's Outdoor Survival game. If you'd like a scenario that challenges both your survival skills and your tactical sense, this may be for you.

Ordinarily, orienteering courses are 6 to 12 miles long. The map board of *Outdoor Survival* is drawn to a scale which makes the distance from the center of one hex to the center of the next about 3½ miles. Obviously, we'll have to change the scale of the game to permit competition at this level. The nature of *Outdoor Survival* is such that this will mean a pretty drastic reworking of the system. To make this transition as easy as possible, here's a "scenario system" which will introduce the sport and allow you to try it out, without changing the game system's essential nature. Players will be placed in the roles of students at an "Outward Bound" type of survival skills institute. As an examination of your skills, you will compete at orienteering on a grand scale. A scenario card, such as those included with the game, is appended to this article. It includes the usual tables for Direction Ability, Necessities and Wilderness Encounters. There are also a few special rules, so mark these well.

We will assume you begin this contest in a prepared state. You have maps, a compass, a knife, a canteen and some wilderness foods; jerky, chocolate, coffee, freeze-dried shrimp provencal. The food and water you carry is sufficient to satisfy two days' needs. These stores may be used at any time the player wishes. Once used, they may also be replaced, under certain circumstances.

It is advisable that you should add two new tracks to the Life Level Index Charts. These will facilitate bookkeeping for these stores. Mark them "0", "1" and "2" in separate boxes. Label the tracks to distinguish them. Whenever you use a day's food or water out of supplies, reduce the appropriate marker one count. If you should replace either food or water, raise the marker to reflect this increase.

Canteens may be filled from any river or catch basin which is suitable to satisfy your daily water requirements. However, since an experienced outdoorsman will take some pains to make sure that he fills his canteen only from a source of good water, this will take time. To model this, you must expend one movement point for refilling your canteen. Canteens are automatically refilled on any turn a player remains motionless to recover steps on the water track.

Replacing stores of portable foodstuffs entails finding and picking edible plants and mushrooms or else trapping game and treating it in some way to prevent spoilage. This is even more time consuming. Thus, it costs two movement points, in addition to the ordinary costs of a food source hex, to replace one point of stored food. When remaining in place to regain food levels, one point of stored food is regained for each day after the first which you remain motionless. This is meant to reflect the wise outdoorsman's decision to regain strength first and also, the increasing scarcity of food once you begin using it. After you've cleaned out the wild

raspberries in the neighborhood, you have to go farther to find more.

When a food and water supply coincide in the same hex, you may replace both food and water by paying the appropriate costs in movement points. This is subject to the limitation that players may replace, at most, one point of stored food per turn.

If the use of movement points to regain stored food causes you to remain motionless, or if you expend movement points to regain stores and choose not to use the others, you may not count that as a turn spent motionless to recover steps on the food or water tracks. If you have dropped to life level H or worse, it would be wisest to regain life levels before worrying about replacing stores. Of course, if you cannot or choose not to do so out of strategy, it is still possible to replace carried food and water points by remaining in place. One turn spent in a water or food source hex will replace one point of food or two points of water, as is appropriate to the hex. This is regardless of the number of movement points you have available.

To play the game, you'll need a course. The simplest possible is to start at base 1 and visit the other bases in order. The finish line is at the "O" in Outdoor Survival. To play this route at Course Orienteering, the winner is the first player to complete the course. If more than one player arrives on the same turn, break the tie by the most unused movement points on that last turn. If the tie persists, the winner is the player with the most movement points, total, on his counter. If that's not enough, break the tie by a roll of the die. A maximum duration of 25 turns should be allowed.

The courses appended to this article may also be used with this system, as well as the system introduced in the next section. The 25 turn limit is, in most cases, reasonable but feel free to set any one that is to your liking. Either Course or Score Orienteering may be run in relays, with fresh contestants running each leg. Course relays are at specified points, preset to the players' agreement. Relays in Score events should be secretly preselected by each competitor before play begins. Agree on some maximum number of relays to be made and let each player secretly allocate the places where he may make a relay. All relay runners start their leg fresh; life level A, food and water tracks at start, full stores of food and water.

As "optional rules", to restore balance as you learn the best ways of winning, there are several possibilities. Use of the Wilderness Encounter Chart is one (which I recommend), as is the Life Level Index. It is also possible to regard bases as water and/or food sources, perhaps with limited available supplies. This would require extra bookkeeping. Since each hex is about 325 acres, you may wish to make players roll to see if they have found each checkpoint, after they arrive in the hex. Success on rolls of 1 through 5 gives good balance, or 1 through 3 if you wish more difficulty.

A quick zoom brings the map scale down about 50:1. Now, the distance across each hex is 100 meters and each turn is 2 minutes of real time. At this scale, we can model orienteering as it really is. There are several changes to be made, though

Competitions, which run 1 to 2 hours, will take 30 to 60 game-turns. One day's time is 720 turns but you will never be out in the field that long. Because the counters represent healthy young people, we can ignore the requirements of food over so short a time. Since the entire game map now represents only about 200 acres, we can further ignore the Direction Ability Requirements of the standard game. Movement is entirely at the players' option.

The new scale makes the terrain somewhat ludicrous. It is hard to believe in mountains only 100 meters across, or deserts comprising less than 5 acres. Still, orienteering is dependent on terrain to give "flavor". Let's ignore the terrain indicated on the board but not the movement costs. You can think of mountain hexes as hilly ground and deserts as soft, barren earth. The movement costs reflect the difficulty of transitting this sort of territory.

The biggest change comes in the movement rules Cross-Country runners will tell you that it makes quite a difference *how* you run If you run hard and fast at the start, you will burn-out If you confine yourself to an easy walk, you will certainly finish but several people will be there ahead of you. The trade for runners is between *time* and *fatigue*.

To model this, we will introduce *three* possible movement modes; sprint, pace and walk. Each has distinct advantages and disadvantages. Sprinting will get you there faster but it is more tiring. Walking is easy but slow. A pacing run is a compromise between the two.

To work this into the game, you'll need to add a *stamina* track for each runner. This indicates how rapidly he declines in strength and ability. Figure I shows a stamina track and the new water track you'll need. Note that life levels are lost only in the transition between certain segments of the stamina track. The different running strategies will have different effects on the movement of the water and stamina level counters.

When sprinting, the stamina level decreases three boxes at the end of every turn. The water level decreases two boxes. When pacing, decrease stamina by two boxes and water level by one box. When walking, both water and stamina decrease by one box each.

Any one of these modes may be chosen by a runner at life level F or higher. Below that level, all movement is considered to be at a walk, though using all available movement points.

When sprinting, the runner may use his full movement allowance. If at life level A, for instance, a sprinting runner may expend up to the full 6 movement points. When pacing, a runner is entitled to one movement point (1 MP) *less* than indicated on the counter. If you choose to walk, you must sacrifice two movement points.

Players must choose and announce a running mode at the beginning of their movement. If, because of terrain costs or for tactical reasons, a player does not use his full movement allowance, the unused movement points are lost. The stamina and water costs of the announced mode are taken, even if the actual movement puts the runner is another mode.

The terrain costs are a little changed and these changes are related to the stamina and water costs. Follow along as I outline these things.

River hexes now cost 3 MP's only if the runner wishes to cross the river, at a point other than a ford. To move *along* (parallel to) a river costs only what the other terrain in the hex requires. In clear terrain, this means 1 MP.

Now the bad news. A runner may drink from a river only if he pays the 3 MP cost, even at a ford. This requirement comes from the fact that, to drink, you must stop, or at least slow down. You are not obligated to cross if you pay the cost, however.

Drinking from a catch-basin costs 1 MP more than the ordinary terrain cost. The ground about a basin is usually harder and less steeply inclined than the banks of a river. Because of this, it should be easier to slow down and then start up again when pausing to drink.

There are no automatic water and stamina costs, unlike the food and water necessities of the basic game. Instead, the costs are determined by the chosen running mode. As the stamina and water levels of a runner decrease, he will lose life levels and speed. Naturally, you don't want this to happen. To prevent this, it will be necessary to recover the water and stamina spaces lost on previous turns. To do this will usually cost time.

When drinking from a river or catchbasin, you may immediately reset the water marker to the top of whichever segment of the water track it occupies. For example, if a runner's water marker is in the second portion of the water track, stopping to drink will reset the marker to the top of the second segment. It will not regain a life level, since life levels are only lost in the transition between tracks. If the runner remains in place on his next turn, the water marker may be reset to the head of the next higher track. The stamina marker may be reset to the top of whichever track it occupies, also. Life levels will not be regained from resetting the stamina track since life levels are only lost or gained between tracks. The resetting of the water marker on this turn will not recover any life levels, in this case, since no life levels are lost between the first and second segments of the water track. This will not always be the case; many times a runner will be able to regain a lost life level by spending one turn at rest

Checkpoints are also suitable for resting or quenching thirst. Indeed, they are preferable. At checkpoints, there will be available such stuff as Gator-Ade and salt tablets. This will do more towards restoring lost energy than a cool drink from a stream. To model this difference, I suggest the following system.

By expending one-half the movement points to which you are entitled, you may reset both the stamina and water markers to the head of the current segments, at a checkpoint. Round fractions up. This means that if you can reach a checkpoint by using ½ or fewer of your movement points, both tracks can be reset on that turn. Remember, the resetting is the last step in the sequence of play. If regaining lost points at a base or anywhere else, take the required water and stamina costs before resetting the markers. Remaining in place on the next turn at a base will permit you to move the water and stamina tracks back two more tracks. If you were not able to reach the checkpoint with enough MP's remaining to reset water and stamina, you may spend 1/2 your movement points at the beginning of your next turn, reset the tracks and spend the remaining points on movement. Note that there are some subtle strategies inherent in these rules. It can make quite a difference, how you time your arrivals at checkpoints.

There are also a few optional rules, useful for adding difficulty and tightening up competitions. They make good handicaps for players of unequal ability. Just require better or more experienced players to use one or more of them. Not only will there be somewhat more difficulty in completing a course, the added rules will tend to upset established patterns and strategies.

The simplest thing to do is to give less experienced players a simpler or shorter course to run in Course Orienteering. For Score Orienteering, award bonus points for checkpoints of "medium" difficulty. These may only be earned by the players needing an edge. The next idea is to require the more skilled players to roll, periodically, against the Random Events Chart. This substitutes for the Wilderness Encounter Chart of the basic game, Note that some of the events are beneficial to the runners. For advanced play among closely matched players, this is highly recommended. You can win or lose by getting "the breaks". Just as in reality.

Another idea, slightly tinged with unreality, is to allow "rookies" to drink from clear streams and catch-basins without paying extra movement points. This is good for balancing a game, if you can ignore the fact that it *is* unrealistic.

Finally, there is the idea of "acceleration" and "deceleration". Require players, when resuming movement from a stop, to progress from walk to pace to sprint. Also, sprinting runners should not be permitted to stop, they must first declarate to a pace or walk, in order to cease movement.

An Orienteering League is entirely possible, if you wish to try. You can compete around a "circuit" of courses and keep standings based on times, points for places or some combination of these. If you are industrious enough, you could introduce variables for each runner's physical condition (such as the recovery of lost life levels between competitions) and for the weather. Rain, mud or cold would affect abilities, perhaps drastically. Another possibility would be to create teams and compete in some combination of course and score, singles and relay events. World Team Tennis has a competition structure that is a good model. It's a little involved to discuss here.

League competitions add a nice note to any game. They are a bit more difficult, of course. Orienteering can be much fun without it. If you want to try, I recommend the articles by Alan Searles and Mark Maticek in the first issue of All Star Replay. In fact, I recommend them to anyone starting a league of any kind.

Well, here it is. Feel free to make any innovations or changes you wish. Gamers can have a lot more fun with their games if they are willing to experiment. Once you lay down the cash for a game, it's yours. Play it and play with it.

I hope you enjoy it as much as I do.



MP's

Outward Bound

Orienteering Scenario 1 Direction Ability

Die Roll

- 1.2.3 Start in any direction. After moving one or more hexes you may make one direction change if desirable. Move as far as possible (subject to current movement allowance and terrain restrictions).
- 4,5.6 Start in any direction, After moving one or more hexes you may make as many direction changes as desirable. You are not required to move at all and may move less than your current movement allowance.

Necessities

Food: You satisfy your current day's needs if you pass through or end movement on a Food hex. You may recover 1 step on the Food Index by choosing to remain stationary in the Food hex on the following turn Water: You satisfy your current day's needs if you pass through or end movement on a catch-basin or stream hex. Swamp hexes will not serve to satisfy your water needs, nor will stream or catch-basins *in* Swamp hexes. You may recover 2 steps on the Water Index by remaining stationary in the water hex on the following turn.

	Wilderness	Encounter	
Die Roll	Nalural Hazards	Animal- Insect	Personal
1	X	X	Gain 2 steps Food, 1 step Water Index
2	X	Lose 1 Life Level	x
3	Lose Canteen	Х	Lose 1 step Food Index
4	Х	Х	Must satisfy day's Food and Water needs
5	X	х	X
6	×	Remain stationary 1 turn	Х

X = No Encounter (no change in LIFE LEVEL status).

Lose 1 Life Level = Adjust Person Counters on Mapboard and Life Level Index Card. Gain or Lose steps on Food or Water Index = Adjust Food and/or Water Level Counters on Life Level Index Card, adjusting person counters if necessary. Such gains or losses are in addition to the turn's normal expenditures.

Remain Stationary 1 turn = Loss 1 turn. If not in a Food or Water hex, lose 1 step on each track

Lose Canteen = Lose all carried water points. May not store water on any future turns. Satisfy Food and Water needs = *Must*, if possible, satisfy day's requirements. Stores must be used if no other source available. If necessities are not met, Lose 1 Life Level.

Elapsed Time Chart Movement Points Available

1	2	3	4	5	6
2:00	1:00	0:40	0;30	0:24	0:20
<u> </u>	2:00	1:20	1:00	0:48	0:40
*	*	2:00	1:30	1:12	1:00
*	*	· · · · ·	2:00	1:36	1:20
-	*	*		2.00	1:40
1		*		160	2:00

Each turn is 2 00 real time. To find the time elapsed on the last turn by any runner, index his movement points used against his total movement allowance. Time is given as minutes : seconds.

Outdoor Survival CONTINUED

X =No event

- 1 = Reset stamina counter to head of next higher track
- 2 = Reset stamina counter to head of current track
- 3 Lose 4 steps on stamina track
- 4 = Reset water counter on head of current track
- 5 Lose 3 steps on water track
- 6 = Gain 2 Life Levels
- 7 = Gain 1 Life Level
- 8 = Lose 2 Life Levels
- 9=SPURT; Gain 2 MP's this turn only
- 10 = Muscle Pull, Lose 1 MP permanently
- 11 = Misread Map; On next turn, roll for random direction. Must move in straight line, use all MP's, continue in present running mode. If stopped, lose 1 turn.
- 12 = LAG; Lose 2 MP's this turn only

The following mapboard locations are given by the standard AH letter-number coordinate system. Numbers are given to indicate northsouth files, counting west to east. Letters are given for rows, running southwest-northeast. In order to number all the hex rows, the numbers "bend" around the southwest corner of the board, so that the last hex in alternate files from A through PP are also numbered, running from 34 through 55. Using this system, Base 1 is at V-33. The "0" in *Outdoor Survival* is at JJ-50.



"What bird?"

Course 1

Start	KK-49
1	KK-30
2	Q-15
3	A-17
4	V-33 (Base
End	KK-49

Course 2	
Start	8-4
1	L-27
2	FF-43
3	V-24 (Base 2)
4	V-35
End	B-4

Course 3(Score Orienteering)

Start/End V-28 (Base 5)

5 Point Checkpoints	10 Point Checkpoints	25 Point Checkpoints
ZZ-33	L-27	B-21
R-33	L-36	E-31
R-26	CC-26	EE-41
	U-44	DD-19
		B-4

Random Events Chart Second Die Roll 2 1 3 4 5 6 9 10 Roll X X Х 2 Х 12 Х Х 4 Х Die 3 2 X Х Х Ist Х 5 7 Х Х Х 11 Х Х 8

Roll two dice (or one die twice) and

cross-index to find result

Note: Special tracks for this variant of OUT-DOOR SURVIVAL can be found on the insert that accompanies this issue

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All in your spare time at home

That'= right, folks. All you have to do is send in a terrific article for us to print in ALL-STAR REPLAY. Almost every article appearing in this issue is written by a reader like yourself. If you've got some great ideas for improvements to a game, new strategies, or whatever, then why not send your idea in to us?

Every article accepted for publication will entitle its author to reimbursement at the rate of \$5.00 per running 10° column, or 150% of that amount in Avalon Hill products. Articles should be typed double-spaced on white paper, and include self-addressed stamped envelopes (with sufficient postage) should you desire them returned. We obviously can't print everything, but if you're as good a writer as you think you are, then you'll soon be famous. Send all article submissions to:

Editor ALL-STAR REPLAY The Avalon Hill Game Co. 4517 Harford Rd. Baltimore, MD 21214

ALL-STAR REPLAY

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Baseball Is A Dangerous Game

By James C. Gordon

In the charter issue of All-Star Replay, a suggestion was made for incorporating an injury chart into the Sports Illustrated Baseball game. Its usage followed a pattern to this effect: whenever a batter is hit by a pitch the dice are rolled, with "certain" (unspecified) numbers resulting in (possible) injury. Next, out of a set of twenty cards, numbered one through twenty, one is drawn, and the severity of the injury is ascertained from the chart below.

Card Result

1-4	Batter is not injured; he takes his base
5-8	Batter misses one game
9-11	Batter misses two games
12-13	Batter misses three games
14	Batter misses four games
15	Batter misses five games
16	Batter misses six games
17	Batter misses seven games
18	Batter misses eight games
19	Batter misses ten games
20	Batter misses fifteen games

This would seem to be a reasonable system, and may be suitable to desire or need, but I feel that there are several aspects of it which can be improved. First, the article did not state which die rolls, after a hit batter, promote the drawing of an injury card. The frequency alone with which the chart is used should indicate its realism and practicality. Second, it would seem redundant to have an uninjured result on the chart if the injury had already been sustained before referring to the deck of cards. It is better to have fewer "injured" rolls and a more realistic injury chart. Lastly, even though there is a decreasing ratio in the number of chances of a batter not being injured as opposed to being put out for one game, and out for one as opposed to two, there is an even chance at getting knocked out for four games as for fifteen. The result of using this system would seem to be more arbitrary than is necessary.

After having given my baseball game plenty of use (I have a 1972 version *Pennant Race*) I invented my own injury chart, to add a bit of (usually unfavorable) realism to the game. Using the same principle of a hit batter leading to a possible injury, the injury chart is used after rolls of 27,28,29, and/or 30 on the pitchers' "X" pitch chart. The injury chart itself also uses the regular Sports Illustrated game dice, with the results shown in the chart below.

No. Result

140.	Result
10	Batter injured, out for 12 games
11	Batter injured, out for 9 games
12	Batter injured, out for 7 games
13	Batter injured, out for 6 games
14	Batter injured, out for 4 games
15	Batter injured, out for 5 games
16	Batter injured, out for 8 games
17	Batter injured, out for 10 games
18	Batter injured, out for 15 games
19	Batter injured, out for 20 games
20	Batter injured, out for 3 games
21	Batter injured, out for 2 games
22	Batter injured, out for 2 games
23	Batter injured, out for 1 game
24	Batter injured, out for 1 game
25	Batter injured, out for 1 game
26	Batter injured, out for 2 games
27	Batter injured, out for 3 games
28	Batter injured, out for 3 games
29	Batter injured, out for 4 games
30	Batter injured, able to remain in game
31	Batter injured, able to remain in game
32	Batter not injured
33	Batter not injured
34	Batter not injured
35	Batter not injured
36	Batter injured, able to remain in game
37	Batter injured, able to remain in game
38	Batter injured, out for 1 game
39	Batter injured, out for 1 game
	,

Explanation of results:

"Batter not injured"—player takes his base, no other effect.

"Batter injured, out for # games" player must leave game and is out for specified number of games. "Batter injured, able to remain in game"—player may take his base and stay in the game with the following conditions:

1 running rating is lowered by one point

2. defensive rating lowered by one point

3. all triples become doubles (3=2) At the end of the game in progress these restrictions are automatically lifted

After the result of this has been determined the manager has a decision to make about bringing his player back early. All injured players may return one game, early, or may remain in play if a 23, 24, 25, 38, or 39 was rolled, but are subject to several conditions, listed below.

1. Running rating lowered by one point

2. Defensive rating lowered by one point.

3. All triples become doubles (3=2)

4. Player may not take any extra bases on Managers' decision options.

5. All hits in the 30's column are one base shorter, all singles become outs (G+).

6. If an additional injury is sustained, player must leave the game, and has one extra game added to the total.

I do not claim that this is a perfect system, it has been said countless times before that there is no perfect system for anything, but it can add another factor for the manager to consider when manipulating his lineup.

THE SPORTS GAME DIGEST

BASEBALI **Cont'd**

of 345 entries. The defense chosen by Tom Shaw, for those of you who do not know, was "F". It's interesting to note that the vast majority (well over 75%) of the losers picked offensive play "10". Congratulations to the winners. Our next contest will be a lot more difficult

Although there is as yet, and may not be, a section in this magazine devoted to what other game magazines call "Feedback", we are of course extremely interested in what you think of the magazine. This isn't TIME magazine, and so far I have plenty of time to read any letters that are sent to me about either ALL-STAR REPLAY or our plans for sports games. All suggestions and criticisms concerning any of our sports games are put in a file which is referred to whenever changes in the game are * considered at all. If enough people want × to see something put into a game (or × removed from it), and they write enough letters, it will be done. So if you have any ideas, write them in. I'll do my best to send you a personal reply.



* * * * * *

We've received many requests asking us what the editor is really like. After searching around the office, we came up with this candid sketch showing Mr. Wonderful (as he's known by his devoted staff) at ease in his office. Suitable for framing.



TABLE ONE-	Groundouts	and	fly	outs
------------	------------	-----	-----	------

Number	F	G+G*	Number	F	G+G*
10	CF	3B	25	SS	1B
11	RF	38	26	2B	SS
12	RF	С	27	3B	P
13	RF	3 B	28	3B	2B
14	Р	38	29	P	P
15	P	Р	30	SS	28
16	RF	Р	31	1 B	18
17	SS	Р	32	Р	28
18	CF	Р	33	2B	SS
19	LF	Р	34	1B	1B
20	3B	18	35	18	18
21	3 B	SS	36	CF	SS
22	2B	2B	37	LF	3B
23	SS	2B	38	LF	P
24	1B	1B	39	С	Р

(F) and SF—lefthanded batters: 30-39 RF; 10-22 LF; 23-29CF/righthanded batters: 30-39 LF; 10-22 RF: 23-29 CF

(SF) —lefthanded batters: 32-39 RF; 10-22 LF; 23-31 CF/righthanded batters: 32-39 LF; 10-22 RF; 23-31 CF

NOTE: For G* where the batter does not hit behind the runner, assume the fielder momentarily fumbled the ball and allowed the runner to advance.

Roll	Eon	Roll	Eon	Roll	Eon
10	28	20	C	30	P
11	28	21	C	31	18
12		22	C	32	p
13	RF	23	SS	33	2B
14	1B	24	28	34	SS
15	18	25	38	35	SS
16	C	26	LF	36	3B
17	LF	27	RF	37	CF
18	CF	28	28	38	P
19	2B	29	2B	39	2B

NOTE: For an error on an outfielder, it is suggested that on a roll of 39, a two-base error be charged;

on 29, a three-base error; on 19, a four-base error.

*					CARD STATE OF THE OF	CONCERNING FOR LONG			
*	Name	Pos	Def	Abs	Dif	XFOC	%FOC	x216	ERRORS
*	Davis	1B	-1	+1	23	6.10	.305	66	15,25,34,35,3
*	Green	2B	+5	+5	17	2.45	.122	26	21,22,24
*	Bando	3B	+5	+5	17	1.55	.077	17	17,26.27
*	Campaneris	SS	+3	+3	19	1.72	.136	29	20,23,30,31
⊁	Blefary	LF	+0	+0	22	1.63	.081	17	18*.33
*	Mangual	CF	+2	+2	20	1.44	.072	16	10,11,13,14
*	Jackson	RF	+5	+5	17	1.26	.063	14	19*,16,28,29,
*	Tenace	C	+0	+0	22	0.35	.017	4	12
*	Hunter	P	+1	+1	21	2.52	.126	27	36,37,38
*	*suggested	for right	t-handed b	atters, For			the 18 and B		

TABLE THREE-1971 Oakland A's sample lineup error table

On this page we find the accompanying cutouts for both the Orienteeing article for the OUTDOOR SURVIVAL game and the Universal Pits for the SPEED CIRCUIT feature. There was supposed to be an insert, but it didn't work out mathematically. If you are interested in using either one of these, cut them out or photocopy, trace, or whatever.

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UNIVERSAL PITS

FINISH LINE

START -



Design Your Own Contest *** Is this original or what? At the last minute, our crackerjack puzzle staff broke down and conceded that they could not come up with a puzzle. However, in a desperate attempt to provide you with some kind of a challenge in this issue we've decided to give you a chance to design your own puzzle. Here's how it works: Just spend several days mulling over all of your Avalon Hill Sports Illustrated games. For purposes of the puzzle, you can assume that this includes any of the games listed in the "Head to Head" section of the magazine. Then, when you've come up with a brilliant idea, send it to us, addressed to: Puzzled Editor, ALL-STAR REPLAY.

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FIGURE I

Three lucky readers will be chosen as winners in this "sort-of" contest. Each will receive a certificate good for Avalon Hill merchandise. All entries will be judged on challenge to the player, ability of the staff to solve, originality, and our ability to insert them into the format of the magazine (where winners will eventually appear). There will be no swimsuit competition, and you will not be judged on neatness. Of course, if your entry is totally illegible, you may as well forget it.

If you wish your creation returned, or wish to be notified of what we thought of it, be sure to include a self-addressed, stamped envelope. Good luck!

★ t cut along dotted line or photocopy ★ ★ ★

Head to Head

If you're looking for opponents in any of our 12 sports games, we suggest you fill out the coupon below and send it in to us (with your subscription, if you're not already a subscriber). In your ad be sure to give your name and address, and mention the games you're interested in playing. In addition, if you wish to advertise discontinued or current games and components published by Avalon Hill, you may use the same coupon.

OPPONENT WANTED

1. Want-ads will be accepted only when printed on this form.

2. For Sale, Trade, or Wanted-to-buy ads will be accepted only for Avalon Hill/Sports Illustrated games, and only when they are accompanied by a token 25¢ fee.

3. Insert copy where required on lines provided and print name, address, and phone number (if desired) where provided

4. So that as many ads can be printed as possible within our limited space, we request you to use the following abbreviations in wording your ad. Likewise with State abbreviations:

Baseball Strategy=BB ST, Basketball Strategy=BK ST, Challenge Football-CHAL FT, Challenge Golf-CHAL GF, College Football-COLL FT, Football Strategy=FT ST, Go for the Green-GFG, Speed Circuit-SC, Superstar Baseball=SB, Track Meet=TM, Win, Place & Show=WPS.

Name	
Name	
Address	
City	and the second
State	Zip

Wanted 1970 Paydirt Charts set to buy or copy Will pay good price for them Cary Cardinale, 6350 Woosley Drive, San Jose, CA 95123

Wanted: Players interested in a pbm All-Time All-Star BB league. League rules voted on by managers. For detailed info, write or call me Gregg E Staab, 2733 E Hillside, Orange, CA 92667, (714) 637-8240.

Wanted opponents for BBST, Chal FT, FTST, SB, WPS and Paydirt, Interested in League Play Jeff Mueiler, RR 2 Box 259 Waterloo, IL 62298

Interested in forming a league for FT ST. Must be able to play every week ftf. Gary Dayton, 911 S. Foley, Champaign, IL 61820

I wish to find opponents for SB, Coll FT. and/or Paydirt, Mark Wilmot, 7665 N. Sheridan Rd., Chicago, IL 60626, (312) 973-4354

Opponents wanted for BK ST, FT ST, WPS and BB ST. Wanted to buy Coll FT. Paydirt and SB_Dashiell S_Meeks, 4000 Hawthorne Dr., Owensboro, KY 42301

Want ftf opponent in AH FT ST, Also vintage AH games for sale, send for list and prices. Noel E. Vargas, Jr., 2225 College Dr., #155. Baton Rouge, LA 70808, (1-504-924-6178). Interested in finding opponents for Paydirt! CHAL FT, Richard Nahlovsky, 186 Oak Street, Indian Orchard, MA 01151, (413) 543-4568. 23 yr. old gamer wants ftf opponent for Coll FT and Paydirt, Jeffrey DeYoung, 525 Andover S.E., Kentwood, MI 49508, (616) 532-0385

TO BUY

For Sale: SB-needs scoresheets-\$7.50. I pay shipping! Jerry Wiggert, 6945 S.W. 115 St. Miami, FL 33156.

For Sale: Used AH sports games BB, GFG SC, many others, Send SASE for price and condition list Bruce Onak, 3858 W 61st Pl., Chicago, IL 60629

For Sale: BB ST (1962, 4 pieces missing) and FT ST (1962) both fair but playable. Or will trade for AH wargame. Send offer and SASE to: George A. Koncar, 603 Seborn Ave., Zanesville, OH 43701, (614) 452-4495. Wanted to buy: 1972 and 1973 SB player

cards Donnie Nichols, 3400 N. Council Rd.,

—KINGWOOD CHAPTER

Teams-All teams in Paydirt, All-time All-Star, Pennant Race, College Football, Superstar Baseball Active Members-Six with several fringe members Dues-None at present time

Activities-Yearly leagues in above games weekend football games

Membership Requirements-No requirements. Members should preferably live in the Humble-Kingwood-North Huston Area They should preferably be under 20 years also Contact-

Andy Clark 2077 Forest Manor Dr. Kingwood, Texas 77339 713-358-6141

S.I. SPORTS CLUB-KINGWOOD CHAPTER

Own Coll FT will play all sports games and AH

- * wargames, Michael Sincavage, 105 Kingston
- * Ave , Kernersville, NC 27284
- Interested in starting a league in the
- Rockaway area for BB ST or SB, Call or write:

John Woodhall, 27 Miami Tr., Rockaway, NJ 07866 1

- Have BK ST. Would like to play and form
 - league in Orange County area Douglas Fabish, 18 Knapp Terrace, Goshen, NY 10924,
 - (914) 294-9474.

 - Want to start league for SI BB or All-Time All-Star BB Contact: George Calebaugh, 165 C
 - Glenridge Rd., Scotia, NY 12302 Wanted: opponent for BB ST. Carl Heick, 461
 - Allen St., Hudson, NY 12534, (518) 828-7717. Wish to form BB ST and FT ST leagues in
 - Syracuse, NY area. Also seek SC opponents
 - for a season of racing. Bruce Clark. 11 Cliffside Park, Jamesville, NY 13078.
 - Looking for Opponents in Coll Ft. Dave
 - Vernon, 1251 Murdoch Rd., Pittsburgh, PA 15217, 687-3269 Ftf, pbp, pbm BB ST, FT ST all contacts

answered, Fred Mondow, 1109 13th, Hood River, OR 97031, (503) 386-2842

Opponent wanted for SB, BB ST, FT ST or

Paydirt Have game will travel Ralph G. Tomasso, 21 Claire St., West Warwick, RI 02893

Wish to form or join an established SI (Paydirt) Football league. Area must be in N VA to N W VA or Eastern Panhandle or W VA. Also MD in VA, W VA and MD area. Contact: Jerry Daily (Age 35), Rt. 2, Box 19, Grove St., Stephens City, VA 22655, (703) 869-2319



CONTINENTAL BASEBALL LEAGUE

Founded-1971

Teams-Twelve

Active Members-Only two as of now. Ten openings Dues-No dues as of now. Possibly \$10.00/Yr. in near future

Activities-Currently we are undergoing expansion

- and reorganization. We will be using Analog Hill's
- Baseball Strategy. We will be using real players career records for ratings. All players shall be bid upon with
- the hypothesis that the CBL is a competitor to the
- American and National Leagues (as the World Football
- League was to the NFL). A 50 game schedule will be played. Extensive financial transactions, trades,
- minor leagues and playoffs are part of this league.

Membership Requirements-Only that the member

be dedicated enough to play the games to the season's conclusion. The member should live in a 25 mile radius of Milwaukee County

- Contact
- Mark J Maticek
- 1725 S. 84th St.
- West Allis, WI 53214 1-414-476-2327

CONTINENTAL BASEBALL LEAGUE

ALL-STAR REPLAY

Bethany, OK 73008. ***** S.I. SPORTS CLUB Founded-1972

FOOTBALL STRATEGY, Cont. from p. 5

All these generalities are nice, you might say. "But what exactly do I do down at the goal line?", is what you really want to know at this point. A good question! Especially since most of the really important games between two even matchups have been decided on the success and failure of goal line stands. What you do from the 10-yard line in is most important. If you can manage to get your opponent to start a series right around the 9 or 10 yard line, without him figuring you to manage him to start a series from right around the 9 or 10 yard line, odds are definitely in favor of the defense. It's tough to score from there, especially in three plays. It is our experience that play calls down in this area rarely involve the running plays, particularly since no one wants to risk losing yardage. Thus, one concentrates on three of the four short passes allowable, #9, #10, and #12. Forget about #11 until 4th down unless you are positive of not getting hit with Defense C (and who can be positive?).

"Still—it's Russian roulette—right?" you may chant.

True to an extent! But here is where you've got to judge whether your opponent is the type of person who sticks with percentage calls, or prefers simply to guess exactly what he thinks you might be calling at that particular time, regardless of whether or not it happens to be an optimum choice.

(It is with characteristic self-sacrifice that Mr. Shaw lays these gems of strategy on you, knowing full well that subscribers to this magazine who are members of the Avalon Hill Football League will, no doubt, use their freely gotten wisdom against him. Then, again, the consensus around the office is that Shaw doesn't have a snowball's chance of winning the league anyhow.—Ed.)

Probably the most difficult strategy to master is the use of the clock to one's advantage. Even some advanced players do not maximize time when behind as it can be done, nor are they adept at running out the clock.

As to running out the clock, avoid overuse of pass plays. This seems logical. However, one cannot control the ball on running plays alone. So when selecting pass plays, at least avoid those with the O/B (out-of-bounds) results.

Playing catch-up ball is another more subtle matter. First off, don't even consider taking a time out until within two minutes. Even as you approach the 2minute warning, bear in mind that the clock stops regardless of length of play. Here you might parlay a 20+ yard gain into a 15-second play.

When under 2 minutes, I need not insult your intelligence with even the hint of suggesting you avoid calling time-out after a 15-second play.

Of course, your opponent is aware of the nature of O/B plays, time-outs and all that, so he will defend accordingly. You, the nervous quarterback, must be pretty darn good at guessing your opponents calls weighing them against optimum time-saving offense plays. But it can happen!

In summation, it gratifies me to know that there are so many who have thoroughly enjoyed this game and have discovered the many nuances and subtleties of play all by themselves. Probably the most profound advise to winning, however, is best summed up in the words of the inimitable lyricist, Jerry Reed, who once philosophized... "When you're hot, you're hot!"

(The Football Strategy tournament held the past three years at the Origins conventions is the only national championship recognized by Avalon Hill. Yet, those who wish to participate in 1978 need not post any regional qualifications, and are welcome to participate by simply showing up at the U. of Michigan with a dollar in hand. Better still, write now for an entry blank to the Detroit Metro Gamers, sponsors of the 1978 convention, whose address is given earlier in this article.—Ed.)

Those of you who want to see what the old FOOTBALL STRATEGY charts looked like are now advised to take your scissors and turn to page 10, where we included a copy suitable for clipping and playing with.





SPEED CIRCUIT: International High Speed auto racing is the game here with action taking place on the world-famous tracks at Watkins Glen Monza. In Monace Stracks at Watkins Glen Monza. Wear ability and braking all important factors in your pre-race planning Everything that happens in a real race happens here—spinouts, engine failures, even race-ending collisions! Game comes complete with large 32' x 22' full color mapboard six metal control of the spinouts of the spinouts of the spinous skill alone—no dice or spinners determine movement if you ve got what it takes, you'll get that checkered flag to prove it when you cross the line(but you'll have to provide your own prize money).

\$10.00



WIN, PLACE & SHOW: All the many exciting facels of thoroughbred racing appear for the first time in one fast-moving game. Buy contenders at a pre-race auction, then place your bets in secret on the horses YOU pick to be winners. Then the race is on! And you're the jockey, as you guide your horse on 5 and 6 furrong and 1st mile tracks. Post position, running strength, speed, endurance, and jockey experience all play a part in each race. Each player starts the game with \$50,000 with the object being to win the most money in the six races that comprise the full WIN. PLACE & SHOW slate. 36 different horses, each with its own odds and special talents. Special rules for Daily Double, and Party and Fund Raiser's versions guaranteed to liven up any party.

S10.00

Bulletin! STATIS-PRO joins Avalon Hill

Just as we were about to go to press, news came in that should be of great interest to all AH/SI gamers. As of March first, we will have acquired Statis-Pro games, a fine set of statistical sports games which are highly regarded throughout the sports game world. For those of you not familiar with them, Statis-Pro games feature individual player cards in pro football, basketball, hockey, and baseball, as well as team charts for the top 100 college teams. Acclaimed as the *best* solitaire games around, they are also fastmoving and extremely playable—perfect for draft leagues or playing through entire seasons by yourself.

To give you an idea of what these games are like, we've printed two typical cards from the Statis-Pro baseball game with this ad. The one on top is a Fast Action Card' Fast Action Cards are a unique feature of Statis-Pro games, one which only recently has been adopted by other sports game companies as the best means of providing a wide range of possibilities while keeping playing time to a minimum. Instead of rolling dice for every play, you merely flip over a card from the Fast Action deck. Then you refer to the correct listing to see what the results were on the particular play you had called. Since every time you shuffle the deck the cards are arranged differently, there are literally *thousands* of possible results on each play.

The other card is Brooks Robinson's card from the 1967 season. Whenever Brooks' card is referred to for offensive or defensive reasons (as a result of the Fast Action Cards) you just glance at the appropriate listing. Brooks and every other ballplayer are rated for the following: On base running speed (OBR), special defense ability when men are on base (CD), stolen base running ability (SP), sacrifice ability (Sac), home run ability (HR), injury tendency (Inj.), and ability to hit with men on base (BD). In addition, pitchers are rated for their control, starting rate, relief ratings, and other important factors.

This should give you an idea of the detail these games go into. They will all be sold from the most recent seasons, with additional "Old-timer" sets being made available as often as we can crank them out. Jim Barnes, designer and owner of Statis-Pro will be working closely with us to keep the cards updated, and he has a lot of interesting concepts which we hope to add to the games.

We're really excited about this important expansion of the Sports Illustrated line, and in the next issue of ASR you should find full information about the whole line of games. Until you read about it in ASR, do not attempt to order anything or ask us about the games, because right now we couldn't tell you.

Fast Action Card PB. 6 CD: Random: 28 Error: Pitch: 23 None Yes ERROR ON INFIELDER P.C. Errdi 3 18,28,38,55 - Error 1 Error on outfielder: OUT SEQUENCE G64 . LN. G4 . LP. G3+ SN: F8 SP. FDR RN. G1 . Rp. F8 STATIS PRO BASEBALL Brooks ROBINSON Thirdbase-158 E2 HR-2 Sac-CC Inj-2 SP-D OBR.C 388: 31 CD-2 32-35 HR: 1Bf: 11 187: 12-15 36-38 188: 16-18 HPB 41 189: 21-23 42-88 287: 24-25 Out Cht RP 288: 26 289: 27.28 (BD Rating-0) 1967 Baltimore Orioles

THE AVALON HILL GAME COMPANY 4517 Harford Road • Baltimore, MD. 21214 • (301) 254-5300

GRAND PRIX de BELGIQUE NIVELLES, BELGIUM 2.314 miles

TEAM CAR-DRIVERS	PREP. PTS.	START SPEED	ACCELER- ATION	DECELER- ATION	TOP SPEED	WEAR
Ferrari 312T2—Flat 12 Nicki Lauda, Carlos Reutemann	6	40	60	40	180	6
John Player Special Lotus 78—Ford V-8 Mario Andretti, Gunnar Nilsson	6	40	40	60	180	5
Marlboro McLaren M26—Ford V-8 James Hunt, Jochen Mass	5	40	40	40	180	5
Elf Tyrrell P34—Ford V-8 Patrick DePallier, Ronnie Peterson	5	40	40	40	180	5
Martini Brabham BT45—Alfa Romeo Flat 12 John Watson, Carlos Pace	5	40	60	40	180	4
Wolf WR-1—Ford V-8 Jody Scheckter	5	60	40	20	180	5
Gitanes Ligier JS7—Matra V-12 Jacques Lafitte	5	40	60	40	180	4
Beta March 771—Ford V-8 Vittorio Brambilla	4	40	40	20	180	5
Shadow DN8—Ford V-8 Tom Pryce, Alan Jones	4	40	40	20	180	5

TABLE 3—SPECIFICATIONS FOR 1977 FORMULA ONE CARS

TABLE 1-HAZARD TABLE

1	No effect.
2	No effect.
3	Hit curb, deflating tire. Lose one turn in pits (stopped for one turn) to change tire.
4	Ignition difficulties, stop in pits for 2 turns to change plugs.
5	Crunch nose on guardrail. Car loses aerodynamic effectiveness. Reduce top speed by 20 mph, reduce all cornering posted limits by 20 mph for remainder of race.
6	Break suspension upright. Car crashes out of race.

TABLE 2-WEATHER

DIE ROLL	RESULT	TABLE 4	1st Place — 9 Pts. 2nd Place — 6 Pts.
1	Rain	OFFICIAL	3rd Place — 4 Pts. 4th Place — 3 Pts.
2-6	Dry	GRAND PRIX SCORING	5th Place – 2 Pts. 6th Place – 1 Pts.



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SOUTH AFRICAN GRAND PRIX

KYALAMI GRAND PRIX CIRCUIT2.55 milesJOHANNESBURG, R.S.A.







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		C	C		
		C	C		
		C	C		

FINISH — START

TAB			

1	No effect.
2	No effect.
3	Hit curb, deflating tire. Lose one turn in pits (stopped for one turn) to change tire.
4	Ignition difficulties, stop in pits for 2 turns to change plugs.
5	Crunch nose on guardrail. Car loses aerodynamic effectiveness. Reduce top speed by 20 mph, reduce all cornering posted limits by 20 mph for remainder of race.
6	Break suspension upright. Car crashes out of race.

